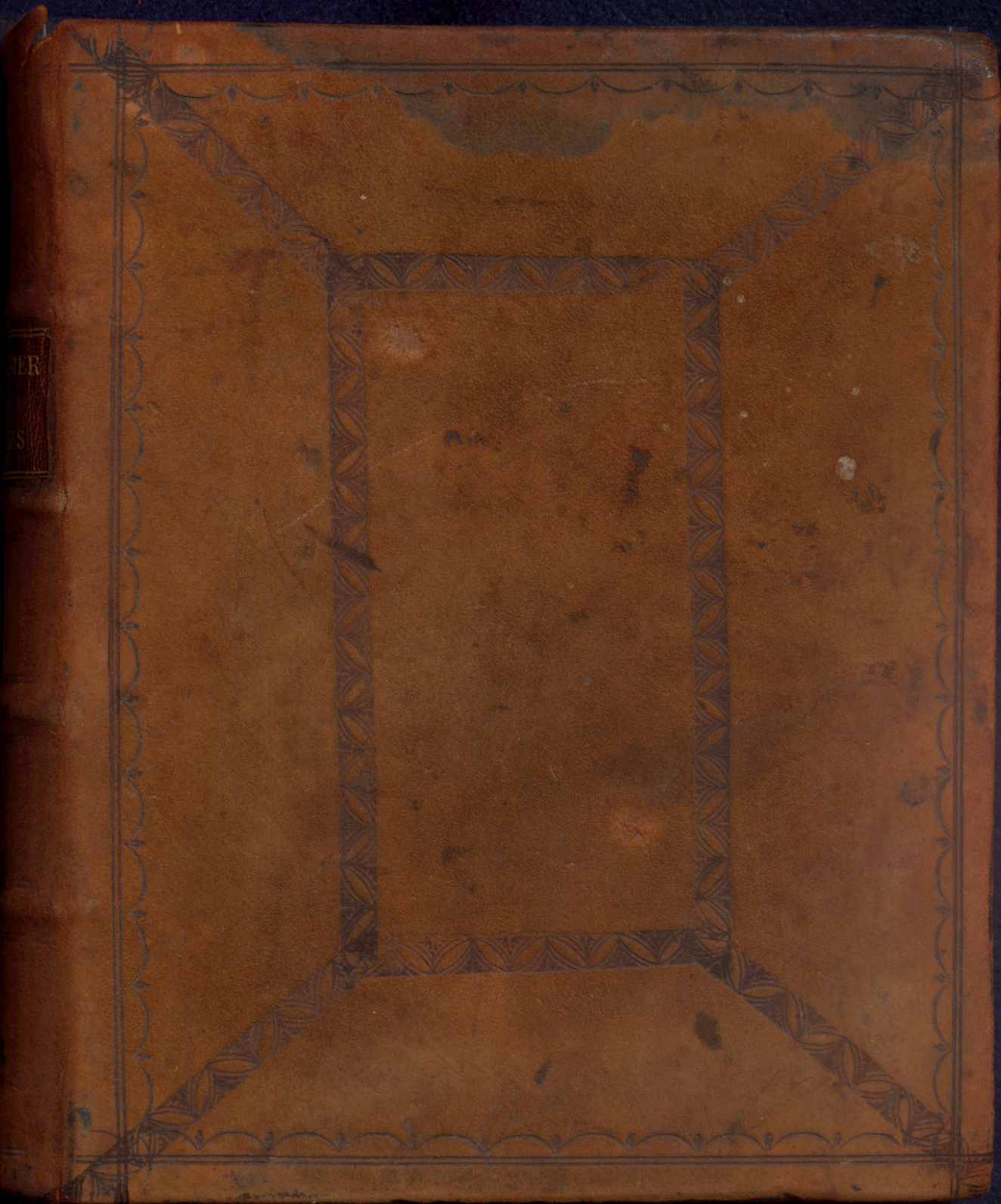




~~IV. supra 10.~~

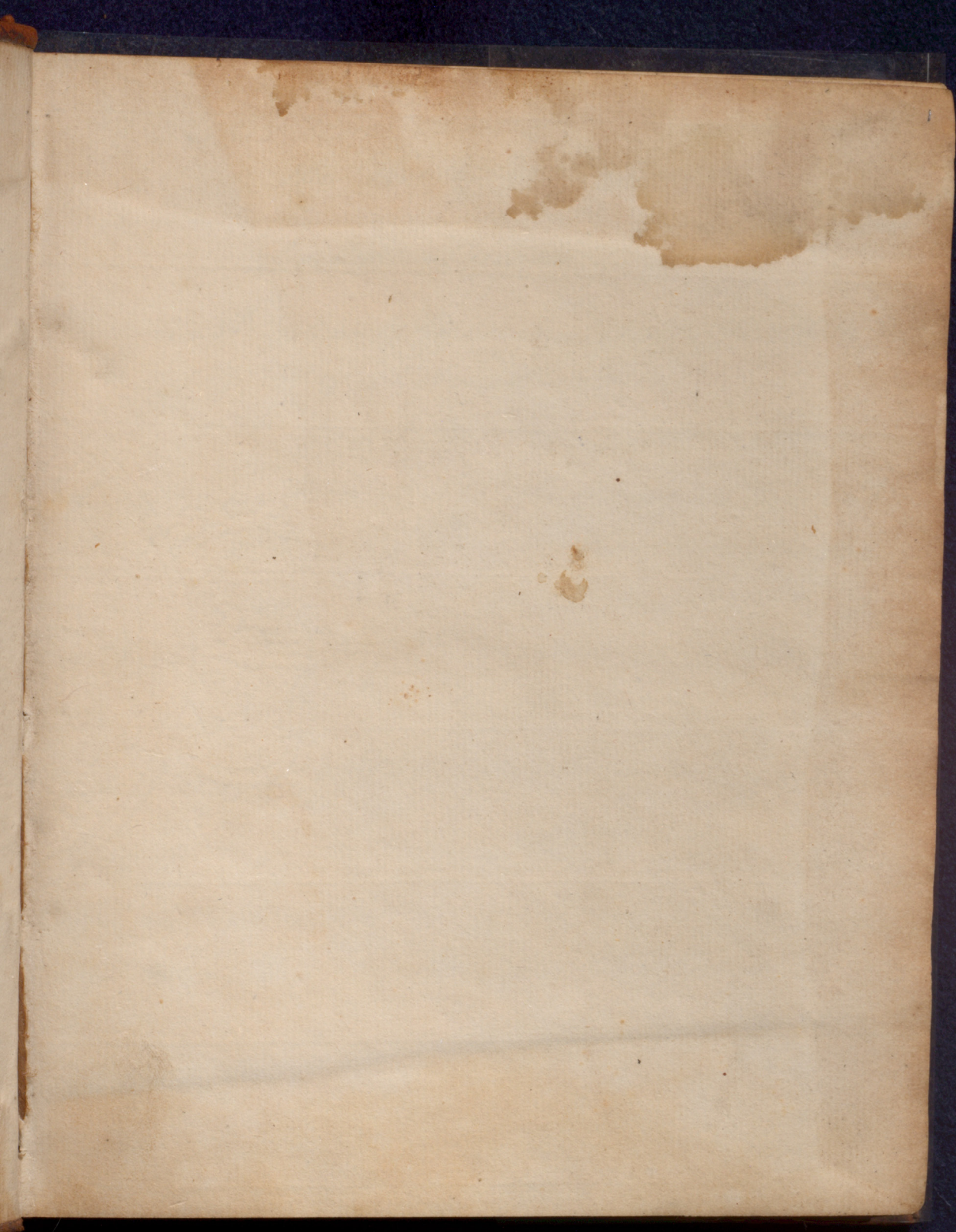
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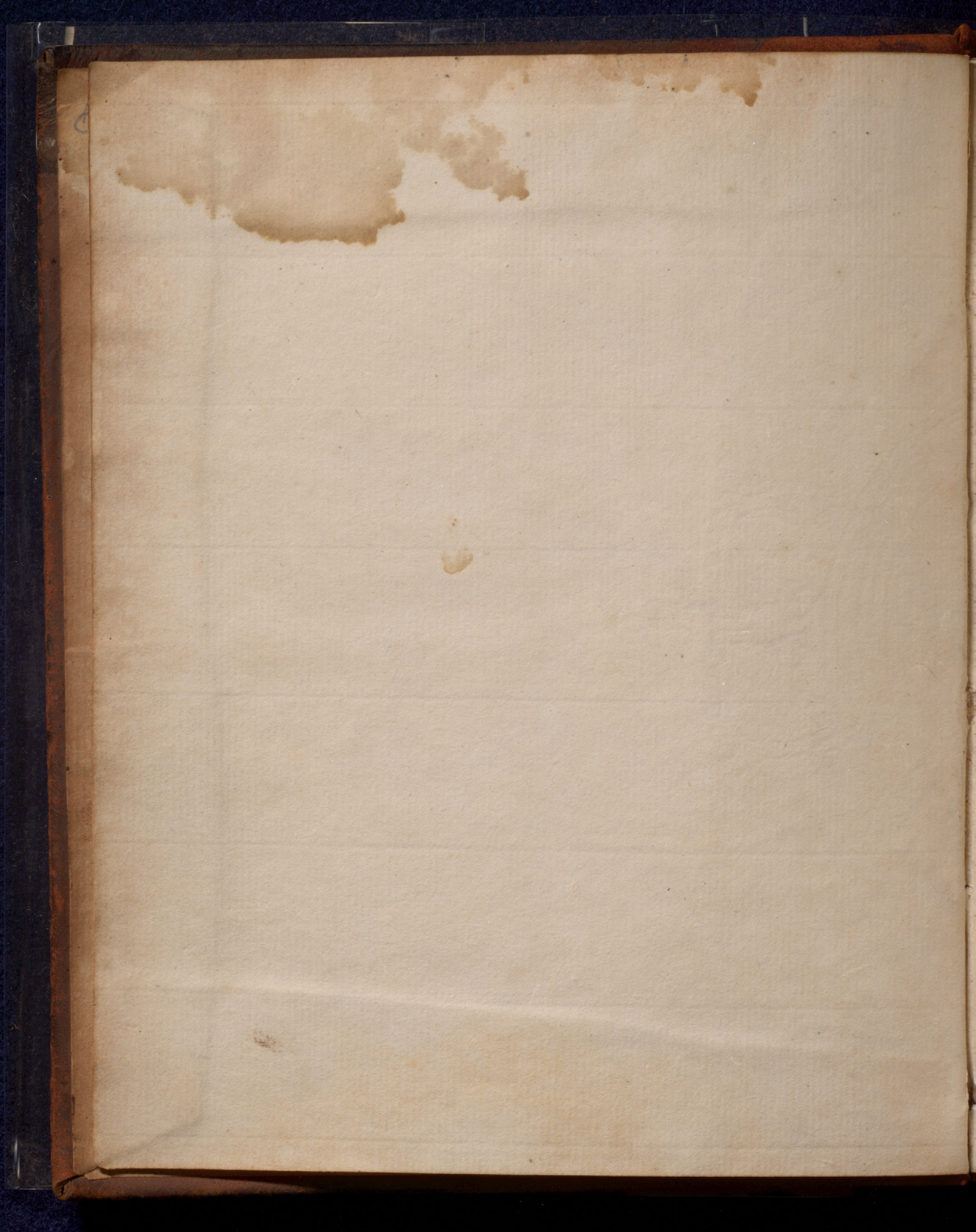
1226. MS. in English, on paper: written about
1780: $8\frac{1}{8} \times 6\frac{1}{8}$ in., 234 leaves.

Foll. 2-125: Notes on 'Mr. John Hunter's
Lectures on the Principles of Surgery'.
Foll. 164^v-222^v (in a different hand, and
beginning from the end of the book): Notes
on Hunter's lectures on physiology. A
number of leaves are blank. 'Mr Pr...
1780' on flyleaf at end.

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2

M^r. John Hunter's Lectures on
the Principles of Surgery

Lectura Prima

we must not only be acquainted with the matter but
the properties of that matter also:

The General Properties of matter is attraction
Specific attraction it is which gives us our form, Elective
attraction produces matter of an homogenous Mass—

he then runs in to his Philosophic notion of
matter—

he divides matter endued with living Principles
into two kinds viz^t. Vegetable and Animal—

Vegetables support themselves on common matter—

the Animal Matter is supported by both the Vegetable
and Animal; Vegetable may subsist on water only;

they are capable of converting water into their own
Substance.

Man in respect to matter is the same Dead
as

as a live - after Death his modification is the same as when connected with living Principle, Life runs thro every part of the Animal and exists the same in every part - Life has the property of Preventing animal matter from putrifying, but when the Animal is Dead his body soon runs into putrefaction - Mr Hunter can't account how.

Principles of Surgery

Life is connected to the matter; he does not pretend to tell how life 1st arises in the Animal but he says it's connected with animal matter as magnetic power is connected with Iron, in this part he intimates his disbelief of a supreme Being and runs into his Philosophic matter into attractive matter Cohesive &c &c. of matter in general varies greatly, has

not the power of producing its own substance,
but Vegetable & Animal matter have the power of
producing its own substance, - In Vegetable the matter
for its support is taken out of the common Mass.
But this is not the case with Animal matter,
it is supported by either Animal or Vegetable substance.
Vegetables may be alive or dead, when Dead their
Substance may be Analyz'd and their virtues
ascertain'd, life in Vegetable like animals has the
Property of Preventing Putrefaction.

In Animal Bodies Life is a Property
added to the undigested matter, which Preserves it from
Putrefaction —

Sensation is a Property belonging to
animated matter.

The Brain & Nerves Produce Sensation
By sensation we have the will and this brings on
Voluntary Actions.

Sensation allow us no power over
the internal Body —

Of Life & Sensation & voluntary action

Life is the Principle of Action. Life by acting on the Sensations Produces the will which directs all voluntary action. —

Life joined to the Sensations often produce compound Actions.

Compound actions arising from the Principles of Life and Sensation are very evident — one of the actions is called Instinct

The Sensative and voluntary powers are put in action by the affection of the Living Power thus a Child is born, this child does not know that it must have food to nourish it, but the Constitution begins to waste as soon as the navel String is cut. as soon as any thing touches its Lips they put themselves in motion. this 1st instinct of Nature arises from the living Power only and this sensation of the lips is communicated to the Stomach and every

Part begins to be in action this last is evident
in a Bird. —

The Bird has Eggs within it, these Eggs were
not Produced by any voluntary action in the Bird,
but arise from the 1.st Course of life, Producing a
certain Sensation — This Sensation internal drives
the Bird to gather hair thread Feathers and Twigs
and to build it a nest, then from the living impulse
the Eggs are ejected by another sensation — then
affection for these Eggs makes the Bird sit on them and
Protect them — the Principle of Life is in the Egg and
requires heat only to Put that life into action. —

Anger Fear love are only different sensations
Sleep is another effect of the sensitive Power —
in Sleep we have a Cessation of all Bodily ~~action~~ —
the mind itself is now quiet and when the mind and
motions of the Body are all still then we may be said
to be in a true Sleep, Perfect Sleep is a Perfect Cessation
of

of the Sensative and Corporal actions—

But we have dreams with our sleep in these cases tho' there is Cessation of Action in the Body yet the memory is in action— In some Fits

we have the Sensative Powers unaffected whilst the muscular Powers are violently contracted or distorted

In some Fits the muscular parts are not affected but the Sensative are most Violently affected thus Fits vary greatly some affecting the Sensative Powers. some the Voluntary powers and some the muscular—

Sleep should fill up one third part of the Life of the Animal it is the Winder up of the Powers of Sensation—

of the Blood

Blood is a Part of the Animal Machine—we have Spoke of the Animal matter we shall now speak of the animal fluid.

5.

Of the Blood

Chymically analyzing the Animal fluid is of little or no use in explaining its uses in the Animal Economy —

Animal is different from ^{all} other matter it has a part different from all matter viz. ^t its Life

Animal matter is supported by dead Animal and Vegetable matter it is converted into chyle and undergoes Two changes viz. Animalization and vivification — Animalization is the converting food into Blood and vivification is the converting that into Life — the process in converting animal and by Vegetable food into Blood and into Life and both the same and entirely different from Jelly Breath &c.

all food undergoes 3 changes 1st the food is changed and swallowed and converted into chyle — this chyle is converted into Blood now vivification takes place in the Lungs the Blood is gradually

of the Blood
brought there and by the heat of the Lungs is
impregnated with the Powers of Life in the same manner
as heat brings the living ^{Power} in an Egg to action or as
Seed put into the Earth by its Power is brought to
produce a Living Vegetable. Mr. Hunter supposes the
1st Principles of Life to be conceived in the Stomach
and tho' the Chyle this is not really alive yet it has
the Principles of Life and wants nothing but the
warmth of the Lungs to bring it to Perfection as
heat in the Earth does Vegetables &c

Instinct is no more than one part
Sympathizing with another.

Instinct is divided into Two kinds
one kind affects the Sensative power and produced by
the living Principle this kind of Instinct that affects
a Child as soon as born to have a desire to suck for
natural it can't be supposed that the child knows any

of the Blood
of its wants no the Body wanting, the Powers of Life
affect the Sensative Power and produces it

The 2^d kind of Instinct the voluntary Principle
and is produced by the sensative powers producing the
different voluntary motions

Sleep being a winder of our Sensative
Powers is as necessary for their support as food is
for the support of the Body - and without sleep life
itself ^{would be} affected and in time be destroyed -

An Egg has all the Properties of an Animal
Substance and is alive, Life resides in an Egg as perfect
as it is in a man in a Trance -

Life resides in an Egg in the same manner as it
does in the seed of a Vegetable or in the seed of a Tree,
To bring this Life into real action we must put
the Egg into heat and the seed must be put into
the Earth -

Of the Blood

M^r H. says that the Blood is alive, and gives the following reasons for it

1st he says that the Solids are living matter that blood agrees in ~~perfect~~ Harmony with the Solids

2^{dly} he says that diseases which affect the Solids act on the Blood also —

3^{dly} it changes from a fluid to a Solid when at rest but when circulating it has no tendency to become Solid —

4th the Blood coagulates when out of the vessels much sooner than when extravasated, hence the great use of the Blood in healing wounds by the 1st Intention and in stopping hemorrhages

In Fevers the Blood is altered, it has a tendency to divide into its different parts and the Blood in inflam^y. Fevers coagulates more Solid —

But in Putrid Fevers the blood will not coagulate, and in these there is no disposition to Inflammation in the Solids — In Putrid Fever

Of the Blood

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life is carried on very slowly the Living Power almost
Leaves the Body before Death for the Patient Putrifies
before Death, the vessels are so Putrid as to Permit the
Blood to ooze out thro' them, and the Kidneys Permit
the Blood pass of mixt with urine Bloody Putrid
Purging often arises with spitting of Blood from
the lips gums &c or strip made cases in the Small
Pox, Blood, urine spitting blood &c Mr John
T. blood ran of by his Bowells and spitting
up Blood. the whole intestines were Putrid During
Life.

When life leaves an animal suddenly that animal will not
be rigid after Death but when life leaves an animal slowly
it will be rigid after Death for the living Principle frequently
acts after Death and corrugates the animal, if we take an Eel
and strip it and let it die slowly it will be very rigid, but
if we take an Eel and strike its head against a Stone
and kill it suddenly it will not be rigid but quite
flexible - 7.

On Sympethy

Sympethy is a part at a distance being affected from a sensation applyed or arising in a remote part

a Child in the womb has but one Stimulus and can have but one Sympethy, which is life

Hunger arises from Stomach Sympethizing with the constitution or whole Body.

here he makes various observations on the Polypus having but 4. sensations and that hunger in a Polypus produces, and of small Processes in its feet.

Sympethy in Man may be divided into 3 kinds and these three produce compound Actions —

- 1st Sympethy belongs to the first principle in Life
- 2^{dly} to the Sensative power & thirdly to the mind —

Irritation in one part produces irritation in another hence inflammation spreads and we find that Pain in the Urethra shall produce it in the Testicle —

On Sympathy

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An Injection thrown into the urethra shall produce
Sickness at Stomach, tho there is no pain in the Stomach

The whole Body waiting for want of a Supply shall produce
in the Stomach the Sensation of Hunger this is a compound
Sympathy arising from the living and sensitive power and
this produces another action which is ~~that~~ of the will
and producing motions in assisting ourselves to food—

When the Liver is inflamed we have a
violent pain in the Shoulder

When the Testicle is inflamed we have great
pain in the Loins

If we touch the sensitive Plant the leaf
directly corrugates and part at a distance will be of
corrugated by Sympathy in the same Plant

The mind Sympathizes with the sensitive
Powers, thus Pain in one Person shall be severely felt by
another; the sufferings of others often produce Tears
in the by standers—

On Sympethy

A Swell'd Testicle attending a Clap is a True Inflammatory Swelling, no ways venereal this arising from the Testicle Sympethizing with the Urethra -

Sympethy may be either Partial or universal

Partial Sympethy is already explained and universal

Sympethy is when a Surgeon Performs an operation Suppuration and a general fever shall follow, in this case the whole Body Sympethizes with the parts affecting -

a Rectic Fever is something that seizes the constitution to Death.

In pregnancy we find the Breasts of women swell and Sympethizing with the Uterus -

universal Sympethy is more dangerous the nearer it is to a part necessary for life as in injuries of the Head, they are more dangerous than injuries done

the Shoulder &c. —

Of Sympathy

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Parts at a distance often Sympathize more than the adjacent Parts *Viz.* the Stomach Sympathizes with the Bladder when afflicted with Stone more than the Testicle or Scrotum, and in the swell'd testicle the Scrotum is not affected —

Sympathy of Parts are not reciprocal *Viz.* the liver does not sympathize with a Pain in the Shoulder. The Bladder nor Testicle don't Sympathize with a Pain in Stomach — nor the Bladder does not Sympathize with the Glans Penis when it is diseased — but the Glans Penis Sympathizes with the Stone in the Bladder —

Sympathy is often very irregular we find that the Shoulder has no communication with the liver. The Stomach has no communication with the Stone in the Bladder, nor the Breasts with the uterus —

When the Intercostal muscles are affected the Lungs and Trachea are not affected, but when the Lungs or Trachea are affected the Intercostals sympathize and are in Pain —

Of Habit & Custom

We may apply medicines so that the Habit will not be affected by them - to do this we must begin with small doses and go on slowly - To bring a horse that is frightened to bear the object well we must take him gradually all round it and bring him up slowly - if we attempt to drive him suddenly on it we only increase his fears.

2. Habit is a Habit to Diseases thus by going into an Aquish Country you get an Ague but when your constitution is habituated to the Country you lose the Aquish habit -

In changing climates great care is to be taken as the habit will be liable to many Diseases till it is accustomed to the Climate

People coming from the Country to London are violently bit by bugs but when they are accustomed to the Town tho there are an equal number of Bugs yet they loose their Stimulus on that and they are bit no more -

Of Habits & Custom

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The same takes with the Inushatoes after being accustomed to them they loose the Power of Stimulating.

M^r H. says that the Measles and Small Pox don't return merely from the habit having had them and loosing the Power of being Stimulated by them.

In Specific Diseases the Specific cause may be destroyed yet the effects of that cause continue, thus in the Venereal Disease the venereal virus may be destroyed but the Inflammation & running continues

Of Climates

The Venereal Disease in cold climates runs very violent, In warm climates it hardly produces any Stimulus —

The Schorfula is also a disease peculiar to Climates

Of the Physical & Chirurgical Treatment Of Diseases

From the Distinction in Diseases the cure is divided into
Two viz^t Physick & Surgery but ~~causes~~ are of mixt,
some are truly Physical some Surgical

In Abscess and Mortifications arising in Fevers the
case is Physical & Surgical or in compound Fractures
they may be Physic & Surgical

We have Local Complaints arising from bad
habits, the Surgeon may be often necessary to heal
ulcers &c. and the Physician to correct the habit of
Body - Thus in Cancers and Schirgulas the Surgeon
is necessary to deep the ulcers the Physician to correct
the diseased habit -

Local Diseases as Setons and Issues are
often ~~used~~ to cure Diseases in the constitution now
we have no Diseases that these Discharges can cure, the
Soyes they are great Coxcombs who use Issues we have
better outlets to carry off the complaint -

Diseases often cure themselves and
we often have Agues which cure themselves -

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a Local complaint is an alteration in the
constitution of the Parts -

The cure of Local complaints arising from
the constitution is the work of the Physician

When a local complaint arises from a
Diseased constitution - attacking the constitution
is much better than attacking the Local Disease
for till the constitution is altered we shall
have no success in our cure

The 1st Principle of Chirurgical Diseases &c^a
Of Inflammation

Mr Hunter Divides inflammation into 3 kinds viz^t
the adhesive, the Suppurative; & the
Erysipelatous.

The adhesive Inflammation generally, may
always precede the suppurative Inflammation

The adhesive Inflammation is the same,
whether it arises from Inflammatory diseases - some Disease
in the constitution or from operations which have been
performed on the Body, or from violence, Bruises, blows
fractures &c

Mr Hunter performed the Casarean Operation
on a woman that lived 27. hours after it. when she
was dead he opened the Body and found all the
Intestines had run into the adhesive Inflammation, they
adhered to the Peritoneum and all around the Incision on the
part of the Abdomen — In the Hydrocele when the
operation is performed the adhesive Inflammation
takes on the Surface of the Tunica Vaginalis

Of the adhesive Inflammation

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making it adhere to the Testis and if any suppuration takes place it is after this—

When the adhesive Inflammation arises in the Habit from some ~~existing~~ cause in the constitution it is often of service—

When this Inflammation takes place in the Cellular membrane from a bad constitution and produces suppuration in the Habit, its frequently of great service by Discharging that cause out of the constitution.

When this Inflammation is owing to some violence done any part its of great service as it serves to reunite the Broken vessels and strengthens the part.

This Inflammation answers many wise purposes in the Habit for we have the Serum, Coagulable Lymph &c. deposited in the part, these agghutinate the parts and a fresh set of organised vessels arises, how the part inflamed becomes more vascular, and the vessels are dilated and absorption goes on very freely—

The parts inflamed swell and the greatest pain is where the greatest Stimulus is—

Of Pain

The Pain attending adhesive inflammation is not very acute. In dead Bodies we find many strong adhesions, and the Patient in his life time never complained of any pain in the Part.

In simple fractures and Bruises the Pain is seldom great - The Pain in injured parts is in proportion to the quick distention of the Vessels, and the ~~more~~ great Extravasations.

In Inflammations of the Pleura and Surface of the Lungs, we have always the adhesive Inflammation take place before the Suppurative Inflⁿ.

The adhesive Inflⁿ it is which forms the Sac, which contains matter in the Suppurat.

Inflammation, by this we ^{often} have the external matter Discharged externally from Suppurations of the Liver Lungs &c.

The Internal parts of the Penis Nose Intestines all run into the Suppurative Inflammation never into the adhesive inflammation.

The Erysipelatous Inflammatⁿ is more joined with the Adhesive Inflammation, this Inflammation runs

of adhesive & Erysipelatous Inflammation 19

from Cell to Cell all over the cellular membrane and spreads greatly - When the Erysipelatous Inflammation produces Suppuration it is generally followed by a mortification in the Part, it will often require various openings to let out the Matter in different Parts -

We know that the Adhesive Inflammation prevents the matter from running to different Cells - and that it produces a Sac to confine it, this is of great consequence to the Patient -

Lecture 6.th Union by the 1.st Intention

that the blood is alive is proved by its becoming vascular when deposited in the cellular membrane after blows Bruises &c. was the blood not alive it would act there as an extraneous Body as would infallibly produce Suppurations or adhesions

The Small Pox, Measels are always attended with adhesive Inflammation

Adhesive Inflammation terminates 3 ways

Union by the 1st Intention
ways 1st by resolution 2^{dly} by suppuration 3^{dly} by the
Parts becoming vascular -

In union by the 1st intention the Blood
Oozes out, after the Blood we have the Coagulable Lymph
Ooze out and this Coagulable Lymph serves to reunite
the Part.

When a wound is kept open, or any Extraneous
Body is introduced into the wound, the Suppurative
Inflammation takes Place, but when a Substance ~~with~~
Living Power remains in it heals by the 1st Intention

Simple Fractures sometime become
simple compound fractures, this he says is owing
to a great number of vessels being ruptured and the
extravasated Blood losing the Power of life, then it
acts as an extraneous body producing Suppuration

When the adhesive Inflammation takes place in simple
fractures we have no Suppuration

In Violent Bruises with large extravasat.
of Blood the Blood loses its Life -
the adhesive Inflammation does not take, but

Union by the 1.st Intention

but Suppuration takes Place

To heal by the 1.st Intention, the Divided parts are brought into Contact to prevent it, and if we intend to Promote Suppuration we keep them asunder -

The Needle & Thread is the best method that Mr. H. knows to produce union by the 1.st Intention and he has great objections against this as a Suppuration must be produced by the Ligatures -

In very violent Contusions part of the injured Limb is dead - Inflammation & Suppuration must consequently follow in the case

In Lacerations or wounds where we may expect some extraneous bodies to have entered we must not attempt to heal by union, by the 1.st Intention. in these we must leave the part open to digest and thro' of the extraneous matter

Parts much lacerated can't be healed by uniting by the 1.st Intention -

In Simple compound Fractures union by the 1.st Intention often follows - The Hard Lip when the operation is successfully done is united by the 1.st Intention

Union by the 1st Intention

It is astonishing how wisely (the omnipotent Creator of the universe — NB: these last words are not a part of Mr Hunter's observation to me he appears to be an Atheist) the human structure is framed to repair every kind of injury it is liable to the blood having living Powers grows vascular this vascularity grows dense — this density throws up small portions of Bone — this part of the Series are absorbed and part are converted into vessels Ligam.^{ts} or Bone till the great work of nature is complete

Cure of Inflammation

Our attempts to bring inflammation in to terminate in resolution must be powerfull apply'd in the beginning of Adhesive Inflammation —

To promote resolution we have ways the 1st is by Bleeding Purgings & Emetics the 2^d is by application of Dissectives —

Our Bleeding must be repeated in Proportion to the Symptoms & c^d the Symptoms in general

Cure of Inflammation

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run higher or lower in proportion to the degree of Inflammation and the part inflamed when a vital part is inflamed, near the Head or Heart the Symptoms run very high, the Symptoms are not so high in Inflammations of the parts not very material to Life. —

Bleeding near the Inflamed is better than bleeding at a distance from it.

When we Bleed too largely we weaken the habit so much that the Suppuration can't be produced; by bleeding too largely we may lessen the Powers of Acting, but the disposition to act will be the same.

In Inflammation the action of the vessels is greatly increased and the disposition to act is very great.

By Bleeding we lessen the Powers of life consequently their Power to act is lessened.

But a disposition to act in the vessels often remains when there is no Power to act in this case.

Bleeding would be greatly injurious.

Cure of Inflammation

In Gangrene and Erysipelas we find a great frequency of Pulse but no Power to act in producing good matter as was the case with Mr. Hewson. Bleeding is destructive.

The Powers to act depends on the Powers of Life, bleeding lessens the Powers of Life,

When we bleed to remove violent Infl.ⁿ we must bleed from a very large orifice 15 ounces of Blood taken away suddenly greatly weakens the habit, but 15^{oz} taken away very slowly has little or no effect.

Bleeding near the part affected has cured much sooner than at a distance.

Blood may be taken away by Cupping or By Leeches near the part affected
Of medicines which act on the Body

The mode of Medicines affecting the Body must be mechanical — Our Juices are of the watery kind all medicines which are Soluble in water are Soluble in our Juices,

Cure of Inflammation

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Earths, mettals salts &c^{cc} are Soluble in our Juices, Iron is found in every Juice in our Body, Essential Oyls Pervade every Part of the Circulation - our Urine and our respiration Proves this - The Solution of various Juices in our Juices is evident from our Taste and Smell - if we put many of the mettals in our mouths we find part of them is soluble ~~in the fluid~~ in the fluid in the mouth by our taste.

Medicines which produce vomiting affect the whole habit we know this from the Pale or florid Look of the Patient By Purging

Purges are given in inflammation to weaken, but they have generally been given to discharge humours supposed to lodge in the Body.

That Purges weaken is evident from their effects for in very weak habits a copious Stool will almost kill the Patient and in Dropsical Patients the Patient shall go to stool and die with the great discharge

Cure of Inflammation

In very weak habits a copious Purging will destroy suddenly—

There is nothing so weakening as Evacuating the Semen, its not the mere evacuation of the Semen that weakens but its the operation before the Evacuating which fatigues and weakens so greatly—

In irritable habits we must not Bleed and Purge Instead of Bleeding & Purging we give Bark and a nourishing Diet by which means we frequently produce good matter and the Patient does well—

In all Inflammations whether from Accident or Bad constitution we must pay our Principal attention to what kind of the Inflammation is of whether Dysipulctous or Inflammatory in a healthy habit— In Dysipulctous habits we don't bleed but support the habit— But in strong habits we bleed &c

we keep up an universal Harmony in the habit by giving Doovers powders— The Saline Draughts &c—

Cure of Inflammation

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Local Applications in Inflammations

The Effects of Medicines in curing Local Inflammations are of Two kinds 1st is the cure of the part by an application to the part as in Collyria to the Eyes or as in opium to destroy the sensibility of the part or as mercury applied to a chancre to cure it.

The 2^d is the application of medicines to one part to cure a Disease at a great distance as the application of a Blister to the Back to cure a disease in the Head -

Medicines which cure by being applied to the Inflamed part act by sympathy they affect that part only - we know that punctations and application to the Skin have great effect in removing Diseases of Inflamed parts below -

Vomiting in Inflammations of the Throat Lungs Breasts &c. Vomiting were often known to cure White Swellings and Hernia Hemorrhoidalis in these cases the Disease is far from the part where the medicine acts -

Cure of Inflammation

Blisters and Caustics applied behind the Ears often
cure Inflammation of the Eyes—

The above medicines may justly be supposed to
cure by Derivation

Inflammations arising from accidents
are cured immediately but Surgeons are always
afraid of curing inflammations arising from the Constitution
these have been called critical Surgeons have thought
if they repelled the Disease they drove it back into
the habit— In Gonor. virulenta they have been afraid
of stopping it least they should drive it into the constitution
but they did not consider that it was not a Disease
of the constitution to Permit a clap to run when we can
stop it is to assist in fixing the Patient; the same in
Buboes to bring them to Suppuration is assisting to fix
the Patient—

Fomentations for the time they are applied
give great ease but the Pain after leaving of soon returns
fumigations give ease also, But our Fomentations
can't be constantly apply'd, we endeavour to keep
up a constant fomentation by applying Poultices

Cure of Inflammation

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these assist in smoothing the Parts and give nature time to go thro' the operation -

Medicines affect the Animal Body by Stimulating the living Powers - Medicines make a Part act in Proportion to the Action of the part Stimulated,

Medicines will frequently make Two Diseases act different from each other - Mercury applied to cure the Venereal Disease in a Cancerous habit will cure the Venereal Taint but will aggravate the Cancerous Disease

Sympathy may be local or remote - its Local when the part affected only is cured by the application - its remote when we give Mercury to cure a Disease of the Urethra and by Stimulating the Stomach it produces Hernia

Humourals

M. J. attributes most of the cures that are performed by fomentation Poultices &c. to Sympathy viz in Swell'd Testicles fomentations and —

Cure of Inflammation

and Poultices are applyed but these cure by Sympethy they only come in contact with the external Skin -

Mr. H says that Surgeons in general have formed very wrong & False Theories, for the operation of the warm Bath Fomentations Poultices embrocations

on the application of a Fomentation they have supposed that it produced relaxation by Part of it being absorbed into the Skin in the same manner as water is soaked into a Sponge but he says if the fomentation is

applyed ever so hot the Body is not heated any more by it, the virtues of these applications are owing to Sympethy and not on any relaxing Quality, the Parts are lulled & soothed and the Irritability is quieted by which means we can in the reduction of Dislocations &c.

make use of greater violence without danger

The Volatiles and Steams of hot water &c.

by Surgeons are deemed very penetrating powerfull

Cure of Inflammation By Poultices &c.

relaxants but they all act by Sympathy they have no relaxing qualities

Mild and softening oyls have on account of their lubricating qualities been used and the Preference had been given to Animal oyls, these only get in contact with the Skin the whole of their Virtues depends on friction they are rubbed in a considerable time and are usefull In contracted Tendons &c. the repeated use of softening oyls with the addition of long frictions have gradually overcome the contraction

M^r H. will not allow that these medicines are of any use by Penetrating the Diseased Parts but he allows that Absorption is very powerfull and says that in Buboos the common practice is to rub Mercurialunction into the Buboec itself he says that very little is taken up by the Gland that's affected and instead of rubbing it into the Buboec, he says that he has been

Cure of Inflammation

much more successfull in repelling Buboes by rubbing it into the whole Leg and Thigh by which means much more is carried into the Diseased Gland. (but here Mr. H. errs for his success is owing to a large quantity of Ointment and Buboes are often only a Symptom of a General Pox in the habit) Cold Bath and Cold have been used in repelling and removing Inflammations

Cold has Two powers of acting contrary to each other — one is by its Sedative and 2.^{dly} by its Stimulating Power at 1.st it Produces a Sedative Power, it Produces a contraction of all the external vessels, if its soon removed a strong action of the Vessels takes place and its of great service

going into the Cold Bath once or twice is of no use but if we go in every Day its of very great service. it brings the vessels to a habit of acting strongly and regularly

When we go into the Cold Bath and continue in it beyond the natural strength, it produces Rheumatism &c

Cure of Inflammation

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Strains of the Ankle have been very judiciously treated by Surgeons by 1st Putting them into Cold water or Pump on them, but he says that Surgeons like boys are fond of repeating what they find of service in one case they try in all others and he says they use it in all Strains in these the vessels are already weakened and condemn the use of it

Of the Suppurative Inflammation

When the Inflammation runs beyond the Act of the Adhesive Inflammation, then the Suppuration. Infl. takes place but before suppuration we must always remember that the adhesive Inflammation is become circumscribed

Suppuration is produced by the Irritation which arises and this irritation is of the same mode and kind whether it proceeds from wounds contusions &c^a But irritation simply is not sufficient to produce suppuration for wounds are often healed by the 1st Intention. any

Of the Suppurative Inflammation

any violence so great as to produce Death in the part will produce suppuration whether the hurt be from Bruises mortifications wounds &c.

The application of air to an internal Surface has been said to produce the Suppurative Inflammation but is not a fact, for in the Empy^{se}ma the air is in every part of the Body but no suppuration is produced and we know that Birds have large air cells in their Abdomen and in their thighs and wings yet no suppuration is bro^t on but if we wound these Birds in any part where these ~~in~~ air cells are an Inflammation will immediately take place

Some have supposed that some internal cause had fallen on the part and destroyed its Texture and that inflammation arose to thro of the part.

but if this was the case we could not by the use of Poultices and Plasters renew the parts destroyed but we often have inflammation removed by these means suppuration in generally arises from some Disposition
in

Of the Suppurative Inflammation

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in the Habit to suppurate and whether it arising from a disposition in the habit or to violence from any external cause the Effects & cure are the same.

A Quick Suppuration is a Salutary Suppuration we always find that the Breasts of women that Suppurate quickly always heal kindly and we form our prognostics from the quickness or Slowness of the Suppuration.

When a woman with a bad Breast applies for advice if it has been 6 or 7 months coming to Suppuration we always dread its turning cancerous.

In Suppuration the Patient complains of violent Pain with much throbbing and the Skin becomes of a Pale scarlet colour, The Colour of the Skin is owing to the red Blood circulating thro' were nothing but Lymph circulates before the part swells greatly - from the great distention of the vessels of the part and the hardness depends on the coagulable Lymph being thrown out to secure the

Of the Suppurative Inflammation

The adhesive Inflammation - it's the coagulable Lymph which is first thrown out and this is changed into matter. When we open a abscess before it is terminated ripe we have a great quantity of C. Lymph which is not converted into Pus, in this state we call it bad matter.

Mr. Hunter thinks that it is not necessary for Red Blood to Circulate in all parts of the Body and he thinks it does not circulate in all parts if we open the skin on a Dogs thigh we shall find all under it that nothing but Lymph circulates but if we look at that part about half an hour we shall find that numerous blood vessels will arise and the suppurative inflammation takes place

In Inflammation thus the red blood is pushed to circulate farther than it did before and the vessels get greatly distended with red blood which before circulated no thing but Serum

In some animals the blood does not seem to circulate thro' every part in fish the

of the Suppurative Inflammation

red Blood all lays about the gills and internal
Visera, In Fowls the Blood also seems to lay
most about the head and internal visera, very
little in the fleshy parts

When matter begins to form a Shivering takes
place and the Inflammation goes on even to destroy
itself and be its own cure for when matter is formed
the readness goes off the parts become easier they
break discharge and thro' up new granulations.
Treatm^t of Suppurat. Inflammⁿ

When suppuration has taken place and the
mode of treatment must be follow'd

I have seen large openings made into the cavity
of the Thorax when the Patient has done well and
it was impossible for me to say that Granulations
had taken place all over the cavity and had
heal'd up the Suppuration or that no Inflammation
came on and Mr. H. has seen several cases even they
have died - matter is sometime formed and

Treatment of Suppurat. Inflamm.

and not evacuated but taken up by the Habit, matter is often found taken up out of Pussoes by the Effects of repeated vomits and (I myself have seen matter in the Eye taken up without any injury / in misproceedes Eye)

When suppurations can't be stopd it must be hurried on as fast as possible the quicker matter is produced the better, we can't be to precipitate in promoting suppuration

to suppurate suddenly we use Cataplas. Suppura. warm Plaisters &c. but they are unnecessary except in Indolent Tumours -

If we can increase the Inflammation we can increase the Suppuration

In true Suppurations we should do nothing but Poultice with Bread & milk if this Poultice has any effect it is in lessening the Inflammation its only effects are to keep the Skin easy and soft and to lull Irritability -

Of That Inflammation which Produces Pus 23

We come now treat of diseased parts being changed by nature's operations as near a healthy state as possible - the human constitution may be with propriety be compared to a Beehive when any thing disturbs the nest and breaks down their works as soon as the disturbance is over they set about repairing it till the whole is completed, so in nature as soon as a loss of parts arises by abscesses

wounds &c nature immediately sets repairing the injury by discharging of the offensive matter in Pus and shooting out fresh granulations and cicatrizes the whole over.

Pus at first is little more than C. Lymph mixed with some serum but this is poured out of the vessels during the adhesive inflammation and is always changing into a whiter state and in opening of abscesses we always find the C. L. and Pus mixed together.

In the formation of Pus we first find, that Inflammation 1st begins in the cellular membrane

Of that Inflammation which produces Pus

The vessels get very numerous and greatly dilated now the adhesive Infl.ⁿ takes place part of the coagulable Lymph is deposited in the part and if the Inflammation goes of without running into the suppurative state the coagulable Lymph is taken up again but this is a work of time - If Infl.ⁿ goes on we have pus formed from some change in the Blood - for Pus is never found in the Blood -

Pus a new composition & strain'd from the Blood -
W.^r Hunter supposes blood to be a glandular secretion he says it can with more propriety be call'd a glandular secretion than either urine Tears or Saliva - Tears he says are nothing more than water and sea salt urine is little more than the serum of the Blood the acid Saliva little ^{more} than a mucous secretion But Pus is a matter quite different - Mucus is only a thin coagulable Lymph - no parts of the solids goes to the formation of Pus if they did the granulation would be melted into Pus -

as Pus is a Peculiar matter it must be a ^{glandular} secretion -

Of the Inflammation which produces Pus 29

a Secretion is a Substance or a fluid formed from a mass of fluids the parts which secrete it are called glands and from general observation Pus is a glandular secretion.

Matter has certain peculiar Qualities in it we find by inspecting it with glasses that it is globular it seems very much to resemble cream now cream is secreted by the gland of the Cow in the form of milk, milk is no more than oil swimming in the Serum of the Cow — The Globules which we see in milk or cream are oil mixed with a tenacious mucus and when we get it in perfection it is churned

Cook maids in melting butter often make it oily this is done but putting it in ^{to} great heat they destroy the mucus of the butter and the oil parts separate to prevent its turning oily they add flower & water to make an artificial mucus by which means they have it quite smooth —

Of the Inflammation which produces Pus

Whatever is the nature of the parts producing matter, yet the matter produced is always of the same kind — Good Pus has many globules in it, Bad pus has not any globules in it

a Cancerous sore always produces Cancerous Granulations and Cancerous Pus

Venercal sores always produce Venercal matter and venercal granulations

Small Pox always produces Small Pox matter and Small Pox granulations.

The matter of one specific sore is a stimulus to another sore of the same nature

Matter has not the power of stimulating its own sore, tho' matter often stimulates its own sore but when it does there is some extraneous matter mixed with it.

Sores in a diseased state discharge little more than Serum and this has Extraneous matter mixed with it.

of the Inflammation which produces Pus

and this kind of Discharge ulcerates and corrodes and exoriates all the surrounding parts we then say the matter is very corrosive when this discharge takes place we have no granulations arise in the ulcer or wound

of the Putrefactive Quality of Pus

We find that if an Abscess has contained Pus many months upon opening the Abscess it is perfectly sweet but when the Air gets admittance to it, it soon grows Putrid. If an Abscess inflames it will always produce Putrid Pus, in this case it is not true Pus its mixed with other matter

In Diseased Bones we always find the matter very Putrid, this is owing to small Portions of ~~the~~ Bone breaking down the fine vessels

The Final Cause of Pus

In Critical abscesses the matter is supposed to be thrown out of the Flabit and Issues are made to oblige the Solids to melt down into Pus but
the

The Final Cause of Pus

the Solids make no Part of the Pus

Pus is common to all sores but most in sores in healthy constitutions.

Of Granulations in wounds &c

Nature having formed Pus then sets about forming new flesh, this is call'd Granulations —

Granulations only arise on exposed surfaces Abscesses ^{or} ever so long standing never granulate till opened.

The Surface next the Centers and Surface next the Skin granulates first

Granulations are formed by the vessels elongating themselves and throwing on their own ends new matter which is converted into their own Substance and that moment receives the Power of action —

Mr. H. is not singular in his opinion of Pus being a glandular secretion he says that Mr. Morgan an American Gentleman who came from Philadelphia to England to study Physic wrote a Treatise on Pus being a glandular secretion and that he took this opinion from what he had heard Mr. H. say

Of Granulations in wounds &c.

he once was a house Surgeon of M^r H. S.

The Color of healthy Granulations is of a deep florid red, from the color they seem to be formed by arterial Blood - when they are unhealthy or the Patient stands much upon his leg, this always turn to a livid red. Colours we know that a wound on the leg is much more difficult to heal than a wound on the Arm, M^r H. attributes this to the Granulations being very weak and being unable to circulate the blood and it circulates in the Port and during this Stagnation the ulcers or wounds will not heal - we know that Arterial Blood by Stagnation will soon become black as venal Blood to try this in amputating an Arm at the wrist the Tourniquet being apply'd above the Elbow was slackened the Blood from the Artery was quite Black and Apoplexies and injuries done the Head the Blood is always found Black

Granulations when healthy have a strong disposition to unite this is by the cohesive attraction and depends on sensation which brings the mouths of the vessels together and by the Power of Sympathy they are united

Of Granulations

When the parts are unhealthy will not granulate but it secrets a bad matter which prevents an union —

Granulations shew the healthy or unhealthy state of a Body more than any other secretion from the Body —

In healthy habits let a sore scab and it will heal up of itself but if you apply a Poultice &c to it the Part will suppurate and won't heal till fresh granulation and cicatrization takes Place

Of Cicatrization

This is a Power in granulations of contracting the Skin and where an Arm or a Leg is taken off and a Proper Portion of Skin left on the granulations contract, that we have not above the size of a crown Piece skinned over with new Skin, this is of very great use, for the old Skin is not near so liable to frett and break out as the new Skin is —

Parts lately cicatrized are very red this is owing to their being very vascular but as they

of Circulation

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grow old they loose this colour in the small
Pits for several weeks or months the Pits
look very red but after a year or Two they
entirely loose that colour and are as white
as the other parts —

A Sketch of the vascular System

An Animal body has been compared to an
Hydraulic Machine, it has three kinds of vessels
viz. ⁴ Arteries, veins & Lymphatics —

The Arteries are a set of strong Tubes
originating in the heart, they carry the Blood to all
parts of the body for the various Secretions and
Nourishment of every Part of the Body, from them
the Urine is secreted from them the Gall the Sperm,
The Lacrus &c. are secreted and the Muscular and
osseous matter is found and nourished when the
various Purposes of the Arterial Blood is gone
through

of the Vascular System

through and the Circulation by them terminated from their terminations, arise a Set of Vessels called veins

The Veins after the purposes of the circulation are performed return the Blood back again to the Heart.

The third Set of vessels are the Lymphatics these have been supposed to be merely a Continuation of the Arteries and that Lymphatics of the Intestines and Mesentery when called Lacteals and supposed to be a different set of vessels but they are all the same kind of Lymphatics but their use is to absorb up the Chyle from our food for the nourishment of the Body —

The Lymphatics are in reality the Modulators of the Body for instance in the Thigh Bone of a Child the cavity in the middle of the Bone is not above one inch the bone grows longer by nature laying on fresh layers of bony matter on the ends of the Bone by this means the ends of the Bones

Of the Vascular System

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would be very large but as fast as the layers are placed on the Bone, so fast as the Bony matter near the round part of the Bone is absorbed up and when the Bone is compleated then is five or 6 Inches ^{of} cavity in the Bone

The absorbents have the Power of taking up fat and Earthy parts both these a foreign parts to the Body neither of them are endued with life

The Absorbents have the Power of taking up whole Parts as in some indolent and Schirous Tumours which some times are bro't to disperse

The Fat of the Body is taken up or wasted away by the Absorbent System

an injury done to any part shall occasion the wasting of that Part.

The Absorbents have ^{the} Power of removing compleat Parts of the Body which they do by ulcerations

Ulceration is that Power which the animal Body has of taking up part of itself by means of the absorbent System, its difficult to say how a body can destroy itself but it is not strange then how a Body can form itself. (this last observation of the Body forming itself Proves Mr H to be an Atheist)

The Absorbent System continued

Capillary Tubes can only attract fluids and as it is found that the Solids are dissolved its just to Suppose that some other Power absorbs - The Capillary Tubes will not absorb syl, he says the Capillary Tubes have mouths, he says Perhaps they are like Elephants snouts and he does not doubt but they can bite and Swallow and that their mouths may have different Shapes but he says he is sure they have the Power of Swallowing and he has seen the fangs of the Teeth destroyed by them with exactly the same appearance as a mouse leaves on a Piece of Cheese She has been drawing

Its the operation of ulceration which bring suppuration externally

When ever we see an ulcer spread we may depend upon it the Absorbents are eating up the Parts In exfoliations we have the absorbents taking up the putrid bone and earthy matter whilst the arteries send wholesome bone or call it to

The Absorbent System continued 29

Supply its Place

Ulceration in consequence of disease is of two kinds, the 1st with Suppuration the 2nd with Suppuration to show how the absorbent system acts in destroying the Solids is evident in aneurisms of the Aorta here the Aorta Dilates adheres to the Peritoneum of the Spine wears thro' the Arterial coat thro' the Periosteum and comes in contact with the Bone itself and wears the Bone away this is taken up by the absorbents.

This wearing away is not like a Stone wearing away or any mechanical friction, he says the living parts can't be wore away, the more we use the feet the more they grow callous and the more an ox or auck is used to drawing the more callous and strong it grows except they are used so much as to produce ulceration.

he gives an account of a Tumour arising on the Brain and destroying the Dural Mater the Periosteum the Skull & a great Part of the Scalp.

If coagulated Blood be inside above it produces Inflammation and as the inside is taken up, the Stimulus is communicated externally and fresh layers are produced which increase the Bone to a great size.

Of the Suppurative Ulceration

Matter is supposed to be composed of the Solids and fluids of our Body and its supposed that matter has the Power of melting down both Solids and fluids into Pus, if this Supposition was really true the whole Body would be dissolved into Pus, if Pus has the Power of producing Pus, what is first that produces Pus, this Mr. John Hunter can't tell if any thing has the Power of destroying the part and this is done by mortifications Cantharis &c.

If ulceration begins externally Suppuration comes on in consequence of the preceding ulceration but if Suppuration takes place inwardly ulceration comes on after Suppuration

Chains pressing on the necks or on the legs of Prisoners if the pressure be but gentle it produces hardness in the Skin of the part but if the pressure be great it produces ulceration in the part nature removes the part for to make room for the Pressure the same takes place in the necks of Horses in hardness if the Pressure be gentle the Skin thickens

Of the Suppurative Ulceration

if great it ulcerates - the same takes place in the Saddle

The Stimulus arising from an inward cause as matter produces the ulceration and the same in exfoliation of Bone

An ulcer is no more than nature removing a Port out of the way of some irritating Power as we find in tears that they produce an excoriation now the tears have no chemical power external power requires much more force than internal to produce ulceration In Milk Abscesses in the Breast the matter shall be in 2 or 3 different places at once making different openings if the Abscess point out higher in the Breast they won't heal the pressure of the matter will work down in the Breast and open and heal up of the Ulcerative Inflammation.

The pressure always produces the ulcerative Inflammation but the adhesive Inflammation always precedes it, this answers very wise purposes, for it confines the matter while it works down to the Skin, If the adhesive Inflammation did not precede it

of the Ulcerative Inflammation

The matter would run from cell to cell and produce Inflammation in all the cellular membrane of the part the matter first forms in the center of the Adhesive Inflammation

of the Pain attending ulceration

Ulceration in general when forming gives great pain attended with soreness when the Pain is very violent we are sure ulceration is coming on - but this violent Pain does not attend all ulcerating Parts, some ulcerations are attended with very little Pain as Schrophula, absence of Pain in Schrophula is mostly owing to the Slowness of the Suppuration, in separating dead Parts as in Mortifications the Pain is very little this is done by ulceration -

Abscesses coming to the skin always give great Pain whether the Pain is owing to the adhesive ^{or Suppurative} Inflammation is not known or whether it is owing to them all together.

In Sloughing or exfoliations we have no Pain we can't assign a cause for this -

many parts of our solids are more subject to ulceration than other parts.

The Ulcerative Inflammation

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Ulceration follows the tract of the cellular membrane and when it comes to the skin it often lays there and follows the tract of the skin, the skin does not ulcerate near so early as the cellular membrane Muscles Tendons Blood vessels don't easily ulcerate the cellular membrane is much more disposed to ulcerate than any other. But

The Cause of abscesses coming to the skin and opening has not been hinted at. The skin is not broke by distention of the matter, if it was the matter would be obliged to distend it to a great size, we find that in the scrotum &c the skin by distention is thickened

If ulceration had not powerful disposition to come to the skin to evacuate the matter we should frequently have it break internally and by that means often prove fatal

In exfoliation the ulceration arises on the surface of the sound bone and thro' of the carious bone as an extraneous matter

Same Illustrations of the operation
of the Adhesive Inflammation

W^r H. opened the body of a Subject when the
Inflammation first arose on the external coat
of the intestine from thence it spread to the
adjacent Peritoneum and the adhesive
Inflammation took place unite the Gut &
Peritoneum the adhesive Inflammation
proceeded thro' the cellular membrane Muscles
and fat and Suppuration was produced this
bro't on farther adhesions and the disposition
in matter to work to the Skin made it work
its way
of the Disposition in matter to work to the
Skin tho' very deep seated

from the intestine thro' 4 Inches thick of fat
cellular membrane muscles &c. whereas on the ~~other~~
~~other side~~ there was but a thin gut for it to work
thro into the cavity of the intestine and in this
case if the adhesive Inflammation had not taken
place before the ulceration the matter must
have worked into the Intestine

of the Disposition of in Matter to work to the
Skin tho' very Deep seated

Abscesses often form betwixt the Lungs and the
Pleura and open externally, these arise first by the Adhe-
-sive Inflammation taking Place betwixt the external surface
of the Lungs, and the Pleura, and the Matter working exten-
-sionally to be evacuated.

Abscesses of the Liver are often suppurated and dischar-
-ged externally, these also arise from an Inflammation attach-
-ing the Liver & spread over the external coat and the adhe-
-sive Inflammation arising and uniting part of the Liver &
peritonium, and sometimes part of the Liver protrudes at
the opening, and very strange accounts are given of the cures
these are Abscesses of the Liver and must be treated as such.

Abscesses sometimes arise in the Kidneys and by the
adhesive Inflammation ~~we~~ find that the Stones and Matter
often works thro' the Muscles of the Back and the Patient
does well.

The Disposition of Matter to vacuate itself
at the Skin externally.

In Lumbar Abscess the Matter often pierces
down ^{the} Psoas muscle the reason of it taking this Course is

from the erect position of the Body. it then works down the course of the cellular Membrane into the Thigh and opens there.

Abscess of the Lungs often open into the air Cells and from them is expectorated up by the Trachea.

The adhesive Inflammation does not take place in the air Cells, nor in the Intestines nor in the Urethra these parts are only subject ^{to} Suppurated Inflammation, nor do these parts take on the ulcerative Inflammation.

Ulceration is an operation of Nature to remove parts where the greatest pressure ariseth.

The Ulcerative process has no power over the Cuticle this is opened by Distention.

Whitlows produce very much Pain this Pain is owing to the Cuticle acting as a tight Bandage on the Inflamed suppurating Part. the Matter in Whitlows separates the Cuticle from the Cutis, in these Cases Poultices are very usefull, and one opening should be made very early as it prevents Distention. When these parts are opened the soft Part are squoss thro' the opening, the parts squossed out are close confin'd by the Cutis, its common for Surgeons to cut the ^{protruding} Part of or to Destroy it by Escharotics this is very

bad Practice, he advises us to do nothing but Poultice, by poulticing we relax the Skin, the Inflammation subsides and the Fungus will be taken in.

Of Cicatrization.

Q All deformed parts are much disposed to ulcerate In Lord Ansons Voyages the Scrovy rained so greatly that the Sailors who ~~had~~ formerly ^{had} Fractures, the Callus tho' of many Years standing, was dissolved and the Leg broke in the same manner as tho' no union had taken place and all the old Ulcers and wounds were fresh Skin ^{was} reulcerated again and spread till it came to the old Skin again.

A Sore in a healing healthy state. The edges of the ~~the~~ Skin are ^{renewed} ~~the edges~~ and smooth with a white fine Skin all round the edges, and the Eminences of a florid red in the Middle.

But an Ulcerating ^{sore} full of little Holes discharging thin corroding Matter and the skin fungus rough and unequal all round it.

One should suppose that when Inflammation had arose and Supuration was produced and the Matter evacuated,

Of Cicatrization.

That Nature would be able to compleat the Work she had begun and would heal it up, but we find this often is not the Case, when the Sore goes on well to all appearance the Patient is suddenly taken with a Cold shivering fit, and hectic fever, arises Night Sweats or Inflammation and Spasm or Elyptics, some or many of these Symptoms arise without any Apparent Cause - sometimes the Patient shall be struck with a difficulty of Breathing and Death in 24 Hours.

A Man shall have a compound Fracture every thing shall seeming^{ly} go on fairly, and sometimes shall be struck with Symptoms that shall kill him in 24 Hours, these strange alterations have been generally attributed to absorption of Matter.

Petie Fever is an Attendant on large Wounds Compound Fractures, and Pulmonary Supurations, this fever in all these Cases has been attributed to absorption but M^r H. differs here from the general opinion by saying that absorption of Matter, does very little hurt to the Constitution.

When the Patient is suddenly seiz'd with any of the

Of Cicatrization

about symptoms and it proves fatal he says that he imagines the sore is seated near some vital Part as the same sore seated in a muscular Part it would not produce these symptoms.

The absorption of Matter is sometimes much more than at other times, a sore is sometimes 3 or 4 Weeks in the same state then it shall suddenly change, a Plectic Fever shall arise, we shall have its attendance a weak thread like Pulse, night Sweats, and Colliquative purgings. — why these symptoms take place I can't account for. — this change does not arise from something in the Sore, it must arise from something in the Constitution that occasions this Absorption

We know that in the Venereal Disease Buboes and Chancre shall take place and absorption shall go on powerfully, but in absorbing a violent Poison of this kind the Constitution does not seem to be much affected, this tends to clear up the supposition that absorption is not the Cause, for the absorption of Venereal ~~venereal~~ Matter is much more violent than that kind of Matter which is said to produce the above symptoms, was the symptoms owing to absorption we should have them and the absorption continue till the Wound was healed up, but this is not the Case.

Of Ecaterization

In St Georges Hospital a man with a Compound Fracture for the first three or four Weeks went on as well favourable as any fracture could do, all at once the wound discharged a thin corrosive Scur and a hectic fever arose the Pulse became weak the night sweats came on, the Bark was given with every assistance that could be devised but the Stomach rejected every medicine and the Patient was left as it was supposed to die, and after several Days the Patient craved for a Cucumber he had it and then desired another and next evening he asked for another, and was much better. M^r Hunter says the Cucumber was of no use in his Cure it was by chance he heard the Cucumbers called in the Streets his disease at this time had left him the whole Constitution wanted fresh support the Stomach sympathizing with the Constitution had the sensation of Hunger imprinted to the mind and the Cucumber was called for

The Hectic Fever is owing to the Inflammation of the Constitution and is not owing to absorption.

When a Disease attacks the Constitution, which is too power full for the Constitution to trial, the Patient

Of Cicatrization

falls in to the Aetic Fever. Thus in Lumber Abscess the Constitution is not tried till the Abscess is opened, when it is opened Nature is called up to heal the Abscess, she is not able to heal it and so falls in to Aetic Fever with all the symptoms attending it.

Of The Skin.

Whether the shrinking over of a Wound is owing to the change in the new matter or whether it is owing to the old skin can't be certainly said.

Granulation as a disposition to contract always towards the Center we very frequently find that in very large sores we have very little new skin. old skin contracts and covers almost the whole ^{after amputation} we have very little new skin.

This power of the skin to contract may be assisted by art and for this purpose we use bandages we should never act but when we have a motive for action after amputation its very common to apply Bandages but what motive have we for doing its done to prevent the Parts from contracting from the end of the stump but its very bad Practice after amputation an Inflammation comes on the parts, all bandages must tend to increase this Inflammation, M^r H. advises to leave the Part as barely covered as possible when the ^{suppuration} ~~inflammation~~

Of the Skinning Sores over.

takes place from the end of the Stump the Inflammation is carried off the application of Bandages will then be very use-
-ful to bring the contracted part of the Stump - we never
should oppose Nature in her Operations -

The Sugar Loaf Stump is owing to the great raref-
-ness of the operation in drawing the skin and Muscles back-
-wards in Amputation - and to prevent this kind of Stump
we must bring down the skin to make the surface smooth
and flat by hanging down the skin to the old skin will
have the Power to contract and leave very little new skin.

The new skin is not so elastic as old skin but it be-
-comes more and more flexible, the flexibility arises from
the constant motion of the Parts. Motion puts the
absorbents to act these carry off all the superfluous humours
lodging around the Parts. Friction in indolent Tumours
often dis^{poses}~~poses~~ them by increasing the action of the absorbents
in those Parts. Mercury by stimulating the absorbent System
increases its action and often is of very great service in promoting
the Disposition of indolent Tumours.

The old skin is found too great for the Body and is much
more capable of Distention than the new one - we find
that Parts that have new skin are very liable to fret and

Of the Shining Sores over.

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ulcerate, the skin only covers the Part does not hang loose upon it.

Where new skin is, we find it looks red this is owing to its Vascularity but it soon loses this and becomes almost Ligamentary.

The Cutis has the whole power of forming the Cuticle in Blisters we find that the Cuticle is not formed from the Edges of the Cuticle but in the very middle of the Blisters, the Cutis will form the Cuticle. But in granulations we always find that the Cuticle is formed from the Edges of the old Cuticle.

Introduction to Inflammation in Gener^{al}

I shall only simply consider of the Causes which produce Inflammation, many theories on the Action of vessels in Inflammation have been advanced which I shall say little about.

Inflammation I divide into three Kinds, the Adhesive Inflammation, the Suppurative Inflammation & the Encephalation.

The Suppurative Inflammation never precedes the Adhesive but always follows it unless prevented by producing Resolution.

The adhesive Inflammation is so called from its uniting the Parts together and is of great service in giving Bounds to the

Introduction to Inflammation in general.

Suppurative Inflammation

In all large Cavities we find the Coagulable Lymphth dissolved over the Cavity, we find when we cut into the solid Inflammation it is like an odematous Tumour and we find the Cells in this Tumour all full of coagulable Lymphth, but the Coagulable Lymphth is by some means changed or altered its not pure Coagulable Lymphth but some little altered it undergoes some change in the Solids in passing thro them.

The sides of the Veins adhere after all Operat^{ions} this is brought about by the Coagulable Lymphth oozing out on its surface by this adhesion Haemorrhages are stopped

The intention of this adhesive inflammation is to set Bounds to the Inflammation as soon as the adhesive inflammation is completed the suppurative takes Place if Resolution takes place the suppurative inflammation must follow or be attendant.

The Ulcerative inflammation is the third kind and always is consequent on the suppurative Inflammation, its the ulcerative Inflammation that brings the matter to the surface to be evacuated, we call it the ulcerous because many Ulcers follow this.

The Ulcerative Inflammation may be seen to arise from

Inflammation &c.

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any Injury done to the Solids as from falls Blows. Bruises &c.
or from a constitutional Disease attacking particular Parts or from
Parts not being able to support themselves. It may arise from
Bruises, wounds, Fractures or from Gout, or Fever attacking the Lungs
Obstructions of the Blood, ^{Glands} in the small Vessels has been sup-
posed to be the Cause of Inflammation but this is reducing the
Cause into too narrow Bounds and was too mechanical a Cause.

A Man by sitting produces a mechanical Inflammation, the pressure
from ^{long} sitting or Lying often produces Inflammation but this
can't be term'd a Disease.

There is much difference between a part being hurt or
injured and endeavouring to act right

Specific Diseases in good habits will run through all
the Inflammations as in Small Pox, Measles Buboes. —

In Specific Constitutions an Injury done to any Part
will shew the specific Constitution, thus a man seemingly
of a sound Constitution shall receive an Injury on his Testicle
and shall become Cancerous, a Woman shall receive a Blow on
her Breast and tho' no Cancer ever appeared before in either Consti-
tutions before, they shall both have Cancer the man in his
Testicle the Woman in her Breast, to cutt off the Cancerous

Inflammat^m in general &c. Small Pox Distinct & Confluent
Turnouts which predominates in the Constitution, shall now
fall on the Liver or some of the Viscera and Destroy the Patient.

Thus in Scharofulous Habits a Child shall have
the Measles or Small Pox the Disease lay dormant in the
Habit till its awake by these Diseases then it shews itself
and continues, the Friends of the Child then attribute this
Disease to be a relic of those Distempers when in fact
its the specific Constitution of the Patient.

A Man or a Woman shall have an Injury done ^{the} ~~to~~ ^{to} ~~the~~ ^{to}
Bone or any other Joint and shall then turn out scharofulous
the Scharofula in this Case is the specific Constitution of
the Patient

Specific Diseases are sometimes so powerfull as to
kill as in the Plague. the Plague alters the whole Consti-
tution into the same state as itself.

The Small Pox or Quers. venere does not alter the
Constitution they only prey on the Constitution.

The difference betwixt the Confluent and Distinct small
Pox is as the difference betwixt the Erysipelous and supura-
tive Inflammation

In the Distinct small Pox the Inflammation is confin^d

and Specific Diseases Cancerous Schrophula &c.

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good Matter is produced and the Disease terminates well, but in the Confluent Small Pox we have the erysipelatous Inflammation we have no good matter formed, it runs from one pock to another, and has no bounds to the Inflammation (Hence the propriety of giving Bark.)

In specific Diseases we pay attention to the Constitution as much as the specific Diseases thus in Confluent Small Pox, here we have a specific Disease in a Putrid Habit we attack the Constitution paying little respect to the Disease. Thus in Lues venerea in a Putrid relaxed habit we have the Habit and the Disease is afterwards treated in a specific Method

In Claps the true suppurative Inflammation runs no farther than an Inch and an half Down the Urethra then if it spreads the erysipelatous Inflammation takes it up and carries it through the Urethra Bladder and Kidney.

In small Pox the suppurative and specific Inflammation goes together but if the Disease is in a putrid Habit the suppurative soon ceases and the erysipelatous takes

Inflammation in general &c Small Pox

Place and goes on, we Cure in this Case by attacking the
Inflammatory Habit the Specific we leave to the Consti-
tution.

Of particular Parts of the Body Inflaming.

Extraneous Bodies man the skin produce
supuration but if the are deep seated they will lay
many Years, with little inconveniences

The external Parts are much more liable to In-
flammation than the Internal. Pustules, Boils &c
are very common Externally, if the were to effect
the Heart the Brain the Lungs they would kill.

This adhesive inflammation does not take Place
in all Parts of the Body, this Inflammation is mostly seated
in the cellular Membrane and in circumscribed Cavities
this Inflammation does not arise in the Stomach, Bow-
els nor the Eye nor in the Tongue Uterus nor Trachea
if the adhesive Inflammation took Place in these parts we
should have the Mouth and Tongue grow together

Of the Particular Parts of the Body Inflamming.

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the eye and eyelid grow together and the Testicles grow together though the internal surface does not take in the adhesive inflammation yet the will run into the suppurative inflammation as the adhesive inflammation is excluded from these surfaces so is the ulcerative inflammation.

But in particular Constitutions the surface of the Stomach or Intestines runs into the adhesive inflammation this is generally when there is great debility as after Sea Scurvy and after severe Salivations, this arises from the great debility Nature is in.

The natural use of Disputations is to produce granulation, to fill up the parts which have been Destroyed.

Of Strength of the Constitution

In strong Constitutions the Parts soon comes to resolution or on the contrary soon runs to the suppurative and the ulcerative inflammation soon heals up the Parts. But weak Constitutions are not able to run into the different Stages

Of Strength of the Constitution.

so quick and are much longer in Healing.

Supuration may arise from a Spontaneous Disposition in the Parts to Inflamm.

Supuration has always a tendency to do good if the Body is in an unhealthy state. Supuration is naturally produced to carry off the offending Matter.

Inflammation in strong Habits will easier come to resolution than in weak Habits.

The effect of Weakness of the Constitution

In weak Habits adhesive inflammation and supuration takes Place very slowly. ^{the surrounding Parts} in weak Habits will hardly resolve, and it is probable that in weak Habits the Blood loses its living Power. instance in Dropsical Habits even Taping is necessary, if the Habit is strong the wound of the ^{heals} by the first Intention. but in weak Habits the Blood is so weak that the adhesive Inflammation takes Place very slowly, and the water oozes out many Days and in Taping in Weak Habits instead of Healing in the 1st Intention. we often ^{find} the Inflammation spread over the whole Cavity of the Abdomen and if the animal Powers

The weakness of the Constitution

are very weak we have mortification come on.

Healthy Habits are but little affected every Part does move through its Duty so freely.

The Effect of Inflammation on different Parts.

When the Heart or Lungs are affected with Inflammation we find the symptoms run very High the Pulse is very quick but low (B. this is false have a frequent rapid pulse) and the Blood runs sizzy.

When the Stomach is affected with Inflammation the Pulse is quick and low - If the ^{small} Intestines are affected with Inflammation the Pulse is quick and low and if the Uterus is inflamed the Pulse is quick and low. The more subtle the Organ the more the Pulse is affected with quickness and slowness.

The Heart Intestines Stomach &c. are the more noble Vital Parts here the Inflammation spreads and soon proves fatal and is attended with a low Pulse. the Powers of Life are so attacked that they can't act Powerfully weakness is produced insensibly. - When the Colon is affected the Pulse is much roused.

The Effects taking Place on Inflammation of Different Parts.

Much attention should be paid to what Part of the Body is attacked with, whether the higher or lower extremities when the Higher extremities are affected they soon suppurate and Heal, but when the lower Extremities they are very slow, the Heart and Arteries can't act with vigour at too great a Distance

All Parts of the Body which are supplied with Nerves from the *Par Vagus* or 8th Pair of Nerves, when attacked with a Disease are very much affected and weakened, but when parts are affected which are supplied by the other nerves the whole System is roused.

Of The Stages of Inflammation

We have quickness of Pulse owing to the Inflammation. The cold Fit or Rigour often precede the Inflammation and most Diseases are with Rigour even Pricking the Finger is sometimes attended with Inflammation. Disagreeable affections of the Stomach or of the Mind will affect the Body with Rigour w^{ch} Mr Hunter thinks is the

Of The Stages of Inflammation.

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Effect of Ulceration, the Constitution is affected very differently by Inflammation. the adhesive Inflammation produces but small effects but the effects are much greater in Ulcers in the suppurative Inflammation, in this we have the cold but very powerfull.

The Stomach takes a part in all constitutional Affections.

Of the Blood in Inflammation

The Blood is affected with the Constitution. It is difficult to say whether the Blood or the Constitution is first affected in inflammation the Blood is affected and admits of a separation of its vivified Parts.

The Blood Mr. H. thinks is not inflamed till the Constitution feels the Effects of the Irritation, as in Wound, and violent Bruise - The Person after being Bruised is bled immediately and there is no Buff on the Blood, but on bleeding a 2nd time next day the Blood is very viscid in the first bleeding the Blood was not affected, but in a few Hours it was affected.

The manner Inflammation begins

It begins at a point and spreads in proportion to the surrounding Parts having the Power to sympathize, in accidents it always tends to a fixed point - The different spreading of Inflammation depends upon Sympathy the surrounding parts spreading with the Part first injured in strong Habits the Sympathy is much less than in weak Habits in the latter the Inflammation spreads very fast. The size of the Blood is in proportion to the Part which is inflamed. If the Heart is inflamed its extremely sizey much more sizey than if the Hand was inflamed.

If the Stomach and Bowels are inflamed there is great oppression & slowness but if the Colon is inflamed the Pulse is not low indeed when the Vitals are weakened.

Local appearance in Inflammation

Inflammation begins at a Point and spreads and the Disposition to inflammation may be either constitutional or Local. when the inflammation is spontaneous it generally spreads and shews there is a disposition in the constitution to Inflammation and this Disposition in the

Local appearance in Inflammation

Constitution may be to Phymonous or by cypelalous
Inflammation.

Of the swelling of the Inflamed Part

The swelling is greatest nearest the Point and is lost gradually in the sound Parts. The Tumour is raised by a deposition of Coagulable Lymph and some serum the quantity is in proportion to the inflammation the serum is separated from the Coagulable Lymph and leaves the Part Adematous, but the Coagulable Lymph is retained & fused thro' the Part.

The Colour of the inflamed Part is Changed from a natural to a Pale red. The Inflammation itself either produces a new set of Vessels or else we have a vast crowd of Vessels now circulating red Blood which before did not nor could not be seen. The ~~Summa~~ Tunica its natural state has few or no red Vessels but in its Inflamed state we see thousands of small Vessels circulating red Blood, if we make an Incision in a Dogs thigh, we always find there are no red Vessels, but Cellular Membranes; but an Inflammation will soon come on with innumerable red Vessels

Of the swelling of the Inflamed Part

Fowles and Fishes have very little red Blood circulating externally, but if there is any Inflammation brought on the Part, we find the red Blood Vessels appear very numerous

In strong Constitutions we always find that the colour of the Inflammation is always of a scarlet red, but in irritable Habits the Colour is of a Pink or purple Kind

Very little red Blood goes into the Ligaments till they are inflamed

In Inflamed parts there may be a process going on by the Arterial Blood being pushed into the Veins, the Blood comes out of the Veins in some Fevers as red as if it came from Arteries.

Of the Pain attending Inflammation

An Arm may be shot off and the Nerve know nothing of it, the operation being so quick that it exceeds the Nervous power itself.

In the adhesive state of the Inflammation the Pain is not strong, but as it changes to the

Of the Pain attending Inflammation.

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Supuration the Pain is increased, as the Arteries are dilated a throbbing Pain comes on at each dilatation.

Two operations go on without producing much Sensation in indolent Tumours, as in Ascitis they swell to an amazing size without much Pain, Muscular Parts give more Pain in contracting than during their increase as is evident in the muscular Part of an inflamed Bladder, when the Bladder is filling the Pain is very little, but on evacuation a violent Pain takes Place.

When the suppurative Stage is gone through the Pain is greatly lessened.

Of Emphysema

This is owing to wounds in the Lunge made by a fractured Rib this is called Universal Emphysema The Partial Emphysema takes place in putrefaction is owing to putred Air passing in to the Cellular Membr.

In the Universal Emphysema the Air taken in by the Trachea is carried down by the Cellular membrane of the Lunge and escapes in to the cavity of the

Of Emphysema.

Chest instead of being evacuated by the Lungs in expiration it Passes in to the cavity of the Chest and from thence into the opening made into the Pleura by the end of the fractured Rib from hence it passes into the cellular Membrane of the whole Body and the Patient gets distended like a Calf that is blown up.

An internal wound does not inflame so soon as an external wound, the Air must pass out of the Lungs till the adhesive Inflammation tumbles the wound so as to prevent it - in external Wounds the adhesive inflammation comes on in 24 Hours.

The operation for the Emphysema consists in making an opening in to the Cavity of the Chest to lett out Matter. We must by all means avoid making this opening

To relieve the Patient and cure him we make a deep Incision near the fractured Rib but must not penetrate the Pleura, the Incision must not be made on the fractured Rib, or we make a compound Fracture Rib it must be made near the part, but the adhesive inflammation will soon come on and render it useless we must

Of Empysema

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then make a fresh Incision near that and repeat it till the Incision in the Lunge is healed up. - The Air that is left in the Body in Empysemia is absorbed by the absorbents

If any Air is left behind it does not produce Inflammation

All Circumscribed Cavities admit of the three Inflammations viz the adhesive, suppurative & the ulcerative Inflammations, by this wisdom in the internal Inflammations the abscess is formed, the Matter does not run from Cell to Cell. the adhesive circumscribes it, the suppurative produces Matter, the ulcerative brings it externally to the Skin.

In Inflammations of the Cavity of the Thorax the Inflammation is often seated in the external surface of the Lunge than in the Pleura, for in People 50 years old there is not one in 50 at that age but has adhesions between the Lunge and Pleura, and this adhesion often takes Place as high as the Pericardium and then kills

In Inflammation of these internal Parts, we generally are unsuccessful, they generally prove fatal before they reach the external Skin. When the Inflammation runs so high as to reach the Pericardium it generally proves suddenly fatal.

Of Emphysema.

Partial Emphysema often arises in Mortifications the lungs being so liable to inflammation, may be owing to cold air being applied to them and the inflammation spreads to the Pleura and Pericardium and kills the Patient.

Of the Emphysema or Collection of Matter or Blood or Water in the Chest

Mr. Hunter says he never saw this Operation performed without supuration following it, but the supuration always comes after the water is evacuated but they did well, he saw several Soldiers wounded in the Thorax and supuration come on but they all recovered.

The Emphysema is a Collection of Air in the Cavity of the Chest and over the Cellular Membrane of the whole Body, from a broken Rib penetrating thro the Pleura and entering the lungs, and is to be treated different from Emphysema the Operation for the Emphysema must not be performed for the Emphysema.

N.B. vide Bayford's Surgical Lectures for the Emphysema.

Of the Puerperal Fever.

This always considered as peculiar to lying in Women but erroneously for we have for we have men die of this Fever we should call it abdominal Inflammation in the room of Puerile Fever

This Inflammation does not arise from the substance of the Uterus Inflaming, after Death we have ^{often} found the Uterus quite sound but tho' it may be sound J. H. thinks it may be the Cause of giving such a stimulus as produces the Inflammation he says the Uterus being greatly distended and by labour being suddenly evacuated it may give such a stimulus as to bring on an universal Inflammation he says the sudden evacuation of the Uterus is as tho' the Uterus itself was taken away, he says as tho' a Piece was taken out of the Part and as tho' it did not exist; from the part w^h is taken

Of the Puerperal Fever.

away, the adjacent Parts get alarmed and take on Inflammation.

This Inflammation at first is Partial and then soon becomes universal, it generally begins at the lower part of the Abdomen near the round Ligaments or Rings of the Abdominal Muscles.

The Feverish Symptoms have been mostly attended too in the treatment of this Complaint, but J. H. thinks the Fever only Symptomatic the Symptoms are violent Pains of the Belly and Diarrhea often takes Place but this is often Sympathetic - we must attack the Inflammation if it once suppurates they Die, if supuration arises he advises making a Wound and injecting warm Water into the Abdomen to wash out the Matters, we must make the opening as in Tapping, the Belly is the very tender to the Touch in this Disease.

In opening the abdomen in performing Caesarean operation the aperture should be six or eight Inches long down the Linea Alba the Stitches should close well to prevent Air getting into the Abdomen and bringing on general Abdominal Inflammation. - If the adhesive Inflammation soon follows the Inflammation we shall meet with better

Of the Puerperal Fever

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success in one on which J. H. performed the Caesarian operation and died 27 Hours after he had opened her at the side and found that in that space of time the adhesive inflammation had adhered the original wound to the adjacent Parts to exclude all Air from coming in.

After Taping in the Acute the Abdominal inflammation will often come on and kill the Patient the Peritonium in Dropsies will often get diseased J. Hunter saw two opened after the operation for the Acute, and there was found an inflammation all over the Peritonium the same as the Abdominal inflammation in Lying in Women.

A Pain and soreness in the Abdomen after Taping shews that the Patient will die after Taping the Next Time

J. Hunter says we might justly expect the abdominal Inflammation to follow after the opera-

Of the Puerperal Fever.

tion for the Hernia but he thinks the wound being brought together ~~x~~ brings on adhesive inflammation and Prevents in Hernia. he says that the Peritonium may be safely pulled down and slit upwards, either Stricture is generally in the Peritonium when the Hernia comes down a second time. the Stricture is not in the Rings but in the Peritonium, lay hold of the sides of the sack and slit them down.

Of the Inflammation of Internal Capsule of the Joints

If an Accident happen to a Joint supuration must be avoided as much as possible we must endeavour to produce union by the 1st Intention by simple Bandage. in these wounds the skin bring on inflammation if these reach the Capsular Ligament the acetabulum and by producing Inflammation are of great Injury.

We sometimes open Joints, when this happens we always find that an inflammation takes place all over the Joint.

Of the Inflammation of Internal Cavities
Of The Joint. 47

It is very seldom that we open Joints to let out
Waters as in these Cases the Patient may loose
his Leg. Taping a Joint is a Dangerous operation
Inflammation generally follows when we Tap the
Tunica Vaginalis the radical cure will some-
times follow but this is seldom, the Cure in Taping
the Joint in the Hydrofex Articulii sometimes
loose substances get in betwixt the Joints and the
Patient looses his Leg. In the operation of the
Hydrocele Mr Pott uses the Seton running a Pin
or a Needle woud do the same the Thread
being in the Water is of no use the use of the
Seton is Letting an Aye.

Of the Sacc: Mucoci.

There are Cavities in the Body answering the Purpose of Joints - The sacculi Mucoci are small sacs of Synovia, laying betwixt Tendon & Tendon and betwixt bone & bone, they are intended to lubricate the Joints or ends of Tendons, the Pericardium, Abdomen and other Cavities may be considered as Joints being naturally supply'd by a Fluid to prevent the friction of the internal Parts against their sides, - we have these Sacculi laying betwixt the Patella and Knee and betwixt the Humeron & Elbow and on the Kneecaps, these Sacculi in all these Places are fill'd with Synovia, and on the Knee we often have a great Tumour from which is always owing to a redundancy of Synovia, these sacs with Synovia seldom run into the Suppurative Inflammation, but are not quite exempt from it.

We frequently have Tumours form in the Wrist and other Parts, which is no more than one of these sacs, we attempt the Cure of these Tumours by Bleeds to produce a radical Cure we must bring on Inflammation and Supuration, or we must cut into the sack and let them heal by the first Intention.

Of the Saccul. Mucosi.

When these Tumours arise near Joints we have stiffness in the Joint and the Joint gets Disordered, the same in tendinous Parts, These tumours on the Wrist frequently are Cured by striking them so hard as to burst them, the fluids are taken up by the Absorbents - In the Hydrocele we often find that the Fluid is absorbed, whence a Person going on Horse back Burst it and has a Cure, he advises a Blow for the cure but says that a Blow won't always succeed, but producing an Inflammation on the sack, an Absorption will often arise and a radical Cure.

Of the Cavity of the Eye & its Inflammations.

after Extracting the Crystalline Humour an Inflammation sometimes takes Place and runs into supuration M^r H. saw three Cases when in after Extraction, Inflammation, supuration, and Granulation took Place and Contracted the whole into a small Knot - this arises when the Incision in the Cornea does not Heal by the 1st Intention. sometimes the Inflammation runs so high as to Burst the eye.

Of the Brain (Inflammation of the internal Parts)

I have not one Case sufficient to know how often Inflammation arises on the Dura Matter or Pia Matter after Trepanning, but its very likely, that the same Inflammation arises often hurting the Dura Matter as it does other Cavities - Its evident that the Brain is often greatly Inflamed for it pushes out as in the Case of Whistlers the Reason for the fleshy Parts pushing out in Whistlers is owing to the thin making such tight pressure all round, and the Brain in the same manner being pushed out the Skull acts as a strong Legature hence the Inflamed Parts push out all round the opening.

People often recover after losing a considerable Portion of the Brain.

The Dura Matter is greatly Inflamed yet we should never puncture it, but when Blood or Matter is underneath it.

Inflammation of the internal Cavity of the Veins

L. Hunter ~~finds~~ that the Veins and their internal

Inflammation of the internal Cavity of the Veins.

Surface are very liable to supuration, when a Patient Dies soon after an Amputation, J. H. examined the Veins going to that Stump and found their internal Surface with Inflammation and Matters in many of the Adhesive Inflammation had taken Place and that the ends of the Veins had grew together from it. J. H. says this Inflammation does not arise ~~after~~ amputation only. but also attends Wounds, Fractures, Mortifications &c.

A Sore Arm takes Place after Bleeding, some attribute it to wounding a Tendon, others to wounding a Nerve Others say its owing to a bad constitution, but these Suppositions are all false. this takes Place where no Nerve or Tendon is wounded and where the Vein heals readily the Constitution is good, Mr Hunter says the real Cause is owing to the wounded Vein not healing by the first Intention.

The inside of all Cavities are subject to Inflammation and large Cavities are often the Seat of Abscesses.

A Constitution is only to be known by the Disease that attacks a Person, the Disease shews what Constitution the Person is of.

Inflammation of the internal coat of the Veins

In this Complaint the external surface inflames and suppurates and then the Inflammation runs up the Veins and it often runs very high - When the Adhesive Inflammation runs above and below the Orifice and Suppuration in the Orifice then the Vein heals up, but when this last operation of Nature does not take place the Inflammation runs up and down the Vein, the external Orifice shall heal up but the inflammation in the Vein runs on, was the Inflammation on the outward Parts of the Vein only we should have it heal but an Abscess forms above the Arm and suppurates and thus a Thread of Abscess forms and run up the Vein even to the Heart -

M^r Hunter saw a String of Abscess forming on the internal coat of the Vein called Vena Septima and run up to the Groin and he has been obliged to open them in several Places and always finds the internal coat of the Veins lined with Coagulable Lymph.

If the Nerve was injured and the Cause of the Complaint we should find that Nerve inflamed and Divided. - If a Tendon was injured and the Cause of the Complaint we should find the Tendon affected but we don't find either Nerve nor Tendon Divided.

Of the Hydrocele.

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The Hydrocele, is a Collection of Water in the Tunica Vaginalis which is a circumscribed Cavity, the Cure consists in letting in Air by puncturing it or by some aperture, the Air soon produces an Inflammation on its internal surface - we must have it inflamed suppurate & granulate to make a Perfect Cure - this Case often arises very simply vizt by emptying the Water with a or by bursting the Bag

There is no Danger in this Disease but there is in attempting to cure it. some operations are done to prevent the Disease from killing, but this is done to cure a Disease without any Danger in the Disease

In this Disease the Testicle is part of the Cavity, to cure we must have the Tunica Vaginalis to unite with it, we cant produce union with supuration the Supuration takes place after Taping when the external wound heals up and proves a Cure. M^r Hunter applied a Caustic to cure the Disease but it did not go thro' the Tunica Vaginalis he applied a 2^d Caustic this went thro' and Cured - this was in St George's Hospital.

Of Hydrocele

The Palliative Cure consists in puncturing the Tunica Vaginalis with a Lancet or a Trocar - but the Radical cure consists in as appears by the Dead Body in totally obliterating the Cavity by bringing a perfect adhesion betwixt the Testicle and the Tunica albuginea.

When Coagulable Lymph loses its living Principle ^{or} its Power of uniting, then the Parts will not grow together, it then acts as an extraneous Body and must be thrown out, the adhesive Inflammation cannot take place whilst this exists.

The Different Means of Producing a radical Cure in Hydrocele.

In the Tunica Vaginalis Inflammation arose and Matter was produced and made its way externally. - a Surgeon was called in who supposed the Testicle to be in a diseased state and proposed Castration as the only cure for the Patient J. H. was called in and found the Testicle was really in an inflamed state but this was from the inflamed State of the Tunica Vaginalis, which had sup-

Hydrocele.

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purated, after the first Incision was made for extirpation, he was satisfied the Testicle was sound and the Castration was deferred and the Patient did well.

In the Case of Hydrocele with no Decayed Testicle we have not that Pain in the Back and that great Sickness w^{ch} attends when the Testicle is really Decayed.

The Pain in the Back and Sickness at Stomach arise from the Testicle being Decayed and increased in Bulk, in a decayed Scrotum these two Symptoms do not attend.

The 1st Method of curing Hydrocele is by making an Opening and introducing an extraneous Body to prevent its healing by the Intention, but we must make this opening thro' into the Tunica Vaginalis and the extraneous Body may keep the Tunica Vaginalis open. - The 2^d Method is by Seton, this is by making two openings instead of one.

The 3^d is by Caustic, in applying Caustic M^r Else supposes the whole Tunica Vaginalis sloughs off, but erroneously, nor is it necessary it should, part may slough off but the Cure is owing to the Inflammation and Suppuration that arises in the Parts.

Of Hydrocele,

4th Method was by cutting the whole open and filling the Part with red port Wine to produce suppuration.

In some Cases you can't tell whether the Testicle is diseased or not, we judge that it is diseased from the sick heavy Pain in the Back, this Pain does not attend when the Testicle is not diseased.

In performing the Operation of Incision some Practitioners have opened the whole Sack, others have cut off Part of the Sack, this was doing all that could be done by exposing the whole Sac they expected the whole would slough off and be obliterated, he says sometimes the Tunica Albuginea and sometimes the Tunica Vaginalis granulate, about 26 Years ago he asked Mr. Pott. w^{ch} of them granulated and ^{how} the sac was produced, but he did not know ^{how} the Cure arose.

Cutting the Tunica Vaginalis or any Part of it is unnecessary, he says it will always granulate, he says to cutt it off makes it almost Cruel.

Cure of the Hydrocele, by Incision

Operation worse than any Amputation and is so great Violence as to destroy the Patient.

(I saw a Man in the Infirmary killed by this operation).
we should always make a Difference between Operations on weak and strong Habits in weak Habits the Powers of Nature are called up and are sufficient, but in strong Habits the action of the Parts are too Powerful and destroy the Person; we have the whole Membrana Vaginalis slough of in strong Habits.

When the water is evacuated you may judge of the state of the Testicle, but I. A. never remembers an enlarged Testicle from Hydrocele becoming Cancerous he has often seen Testicles much decreased on opening the Sacks and the Testicle removed, but he thinks they may be all saved and instead of their being Cancerous he thinks the Testicles in all these Cases are scrophulous.

Cure of Hydrocele by Incision.

They never turn Cancerous When Hydrocele is the original Disease (but Cancerous Testicles become Hydrocele from their Diseased State.) he says that many Diseased Testicles from Scrophula are pronounced to be Cancerous.

J. A. has seen some bad Testicles left after performing this operation, and the Testicle got better, he says the swelled Testicle is always from scrophula and not from Cancer as has been supposed.

This disease consists in a Bag filled with Water and the Spermatic Chords.

All we want to know in this Disease, is, whether its Water, and were the Water is - we know there is a fluid by the Fluctuation from one Hand to the other for you may press the fluid from one Hand to another.

When the Substance of the Testicle is swelled we

Cure of Hydrocele by Incision.

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can generally perceive it flat on both sides.

The true Hydrocele is always of a pyramidal figure its of an oblong figure. Swelled Testicles are distinguished from Hydrocele by the above forms. but some times the swelled Testicle and sometimes the Hydrocele are of different shapes. and some of the best surgeons in London have been mistaken, the Hydrocele has been taken for a swelled Testicle and the swelled Testicle for Hydrocele.

The Water sometimes runs so high as to distend the Cord like a rupture even as high as the Rings but never got above the Rings.

Sometimes the Testicle adheres to the Puncta Urogenitalia.

In the Operation great care should be taken not to wound the Testicle - If we run the Lancet or Trocar into the Testicle we have no Water come away we should carefully distinguish the seat of the Testicle

Cure of Hydrocele by Incision & Tent,
when we find the Water don't come, thro' the inadvertence
in running our Lancet into the Testicle, we often say its
a Diseased Testicle and not an Hydrocele.

We distinguish what is Water and what is
Testicle by Squeezing, if we squeeze the Testicle, or if
its Schirrous we always have the Patient complain
of very great Pain, but if we squeeze the Hydrocele he
has very little Pain.

When we perform the radical Cure much
depends on the Part we make our Opening in - If we
make it in the Top as the Water evacuates, the Tunica
vaginalis collapses and prevents any more water coming
out - If we make it in the Bottom the extravacated Fluids
fall down from Cell to Cell and fills the cellular Membrane
so that Orifices are three Inches from each other that is
the External from the Internal, therefore when you
open a Sound Part don't open it in the most depending

Cure of Hydrocele by Incision & Tent.

Part nor above let it be in the middle space
betwixt the two.

When the Case is recent
& the Tunica Vaginalis sound its of no great con-
sequence whether we puncture, Use the Siron or Caustic.

When the Sack is full take hold of it in your
left hand and squeeze it so that the Water shall tighten the
Part and make an Orifice about double the Breadth of the
Sagitt, then carefully introduce your Sponge Tent we must
not evacuate the Water till the Tent is introduced into the
Tunica Vaginalis and through the Scrotum, if this is not
done till the Water is evacuated we shall have the Tunica
vaginalis Collapse and the Cure will not take place, the
Tent must be left in the Orifice till the part suppurates
and no longer, it must be kept in by means of Sticking
Plaster - If the Tent was not kept in, the wound would
heal by the 1st Intention, and we should be obliged to
operate a second Time.

Of the Cure of Hydrocele by Seton.

The Testicle is to be held in the left Hand as before and you put your Needle through the Scrotum and Tunica Vaginalis and out again with a Scone of Silk by this means we are always sure of producing an Inflammation, he says the two apertures of the Seton need not be above half an Inch asunder, he condemns M^r Potts Method of running it the whole length of the Tumour, he says we must only make an imperfect Cavity and we are sure of a Cure.

He advises the ^{staple} ~~staple~~ of Thread to be full as large as the Instrument, that we may have them fill up the Orifice and not permit the Water to run off ~~the~~ before the Inflammation is come on the Whole surface of the Tunica Vaginalis, and when the Water runs off too soon he says the Tunica Vaginalis never fails to collapse and the Cure is not perfect - Every part puts on the Adhesive Inflammation were the Air gets

Cure of Hydrocele by Seton.

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too, but no were else, he has seen the operation performed and the Adhesive Inflammation took Place were the Operation was performed but no were else. In the Cure when he performed the Caesarian operation the same Adhesive Inflammation came on the Peritonium and Intestines bring on Adh. Inflammation all round the Part where the Operation was performed.

Of the Cure by Caustics.

The uncertainty of the Caustic passing through the Skin and Osica Vaginalis is a very great Objection to it, if we are obliged to puncture the Osica Vaginalis, the Cure then is by puncture only. — The Caustic has this advantage of exciting the suppurative Inflammation before the Water is evacuated, and by this means we have the Inflammation more universal and the Cure more certain. —

Treatment of Hydrocele after the Operation.

After the operation he advises a Cloth in Cor & Fold to be dipped in Spt. Vin. Brandy or any Spirits and kept constantly moist. by this means the sedative Quality of these Medicines prevents the Inflammation running too high. and a suspensory Bandage is always necessary in these Cases.

The Symptoms of Inflammation of the Testicle is a sick heavy Pain, a Lapsitude, a Nausea at Stomach. one peculiar Symptom is a Pain in the Loins this is supposed to arise from the Nerve going from the Back to the Testicle. In 24 Hours we have Signs of Inflammation viz Small Rigors a Lapsitude and restlessness will take Place before any Pain in the Testicle itself - The Scrotum becomes painful and throbs and Swells to a great Degree especially

Treatment of Hydrocele after the Operation. 56

ally if the Knife seizes the Tunic Vaginalis the Wound appears deep if its made by Incision but the Swelling is owing to the Cells in the Scrotum being loaded with extraneous fluids, we now can't distinguish between the Testicle and Scrotum, The Testicle itself being inflamed greatly and throws up Granulations and is attended with great Pain, this inflamed State of the Parts is treated as all other Inflammations if the Pain is great we must take care to suspend it well, the great Quantity of Cellular Membrane in the Part is the Cause of its Swelling so very large.

If the Testicle is Diseased the Case is truly dangerous as it must greatly inflame and granulate before a Cure can arise.

Of Abscesses.

The Animal Economy of Parts differs as they differ in the Progress of the Disease.

Of Abscesses

Muscles, Cellular Membrane, Tendons, Bones, &c. differ from one another materially, many Specific Diseases have the same effect in all these Parts as Scurfula &c. but in Diseases w^{ch} accident brings on they differ very much, the local symptoms are great or little in proportion to the Part effected, If ^{languid} weak Parts are effected as Bone Tendon Ligament the Symptoms are weak, they go on very slowly in their Disease, A Strained Tendon Ankle or a strained Knee will produce a wasting of the whole Limb Diseases of these Parts give very little Pain but will be a long Time in getting into a sound State.

The skin Cellular Membrane ^{by} Muscles have great Nervous Powers they run thro' their Compl^{ts} very soon and very Powerfully.

Parts of The Body w^{ch} have the strongest Disposition to heal.

An Abscess on the Arm will heal much sooner than on the Leg. Abscess on the upper Extremities

Of Abscesses.

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heal sooner than on the Lower.

All Ligamentous Parts are a long Time in Granulating.

The Cellular or Adipose Membrane connected with Ligament or Tendon does not heal so soon as when connected with Muscles.

Parts of the Body not disposed to heal.

Tendons Ligaments, Periosteum Bones are very Indolent in healing.

A Part Indolent in Suppuration is as well gone altogether.

Abscesses are often the Consequences of Inflammation but not always, they require great variety in their manner of Treatment.

Some Abscesses are specific as Scurfula Venereal Abscess, the Divides Abscess into Sound & Unsound.

Of Sound Abscesses

I mean by a sound Abscess that the Constitution is

Of Sound Abscesses

good and the Abscess is in a sound Part. Venereal Abscesses have a specific Quality of destroying but admits of a Cure very easy after destroying their Specific Quality.

The Mark between the Sound & Unsound Abscesses.

The Sound is attended with great Pain the Matter connects the Skin very fast and ulceration goes on very fast it breaks at a Point after having inflamed much.

Poultices are used to assist the Matter to make way betwixt the Skin and the Abscess. they assist in keeping the Part warm and soft its supposed that Poultices assist in dissolving the Cellular Membrane into Matter, but this is false, this Operation is done by nature.

It requires but little attention in its different Progresses but as few Ulcers happen in Sound Constitutions, they should be treated in some degree like unsound Ones
1st Open the Abscess freely to prevent it running into

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The Marks between sound and unsound Abscess
a kind of fistula, make the opening at the most Depending
Part that the Abscess may have no pressure next the Skin
which would retard the Cure by preventing Granulations
forming.

The upper Part of Abscesses heal sooner than the lower
Parts therefore enlarge the bottom Part and keep it from heal-
ing our success depends on opening them freely and Draining
to the Bottom, in sound Parts and in sound Constitutions
its right to open freely, the Drainings must be as simple
as possible nature will perform the Cure but Nature
will not always Answer.

Abscesses often go on kindly at first but at last
put on a bad appearance.

Retardment of Cure from Situation

The Cure of Ulcers may be greatly retarded from their
Situation as in deep seated abscesses.

Retardment of Cure from Situation

The matter in deep seated parts has a great way to go to the skin, and in its passage produces Ulceration and the Passage thro' w^{ch} it passes often granulates and the Part by this means becomes Fistulous.

The cure consists in removing the Obstacle of Depth by exposing it freely and keeping the divided Parts from uniting too soon and should be applied to the Bottom - and always observe that the Bottom or Diseased Part is more unsound than the Parts through w^{ch} the Matter passes - We must enlive the Bottom as much as possible, for the Bottom were the Matter formed is much more unsound than were it passes consequently the sound parts heal first forming a Fistula.

A superficial Abscess formed on a Tendon or Ligament will be as difficult to heal as a deep seated Abscess in another Part.

Retardment of Cure from want of
Natural Powers.

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The Slowness ^{proving} from want of natural Powers to act, in this case the mildest is the best Method of Treatment for if you roused them too much they would make them destroy them, and make them slough off. The Slowness is the want of Powers to act we should treat them mildly all the sedatives we can use are the best applications this is the Case in Wounds &c of the Tendons to a Bone or a Tendon we had better apply Opium than Balsamics &c. we must pay attention to natural Powers of the Part or we may destroy them by stimulating. In Newbury a Woman applied to me for several months with a small wound on a Tendon in the fore Finger. we are obliged in all these Cases to wait with Patients for the Cure and the same is all Cases where the Tendons are strained.

Of sound Parts w^{ch} have no Disposition
to heal.

This may arise from a slow stimulus in the
Habit, or from Cold or from some Disease in the
Habit, we should find out whether the Cause is Local
or Constitutional or both. When we want to heal a
Part soon we should produce Heat and give Cordials.

If the Constitution is in fault we give Medicines
internally. If the Cause is Local we must carefully
inspect it. The Indolent Constitution may be known
by the Cause produced, the Colour is Purple and not Scarlet
the Progress is slow, but its difficult to tell whether it
arises from the Part diseased or from the Constitution, in
scrophulous Cases the Part only is affected.

In the Hydrocele the Water by pressing on the Tunica
Vaginalis thickens its Coats and the same thing takes Place

Indolence from Mechanical Pressure. ⁶⁰

in Encysted Tumours, when they have been long Indolent the Sack will be greatly thickened and you can scarce rouse these Parts to go through the natural Process for healing.

Many of these Sacks from the Disease have bones found in them, Bone is often found in thickened Parts as the Pressure here is applied so slow as not to produce ulceration.

To cure in these Cases the Pressure is removed if in an external Part, if it suppurates and the Part is indolent in bringing the Matter to the Skin, Mercury is the Best Stimulant - If incysted rouse the Parts to Action.

Indolence from Cold.

Mr Hunter says Cold is either a powerfull Sedative or an Obstructor to the Animal Powers, he thinks it acts by obstructing the Animal Powers, and not by its sedative Power. Cold when applyed to a Part soon acts about producing heat. If the Constitution is weak, Cold always tends to destroy or weaken it more. Thus in Chilblains, the Extremities gets colder than the natural heat of the Body. Poultices with a small quantity of Mustard is usefull.

Chilblains arise from the Extreme Parts being more subject to Cold & the Power of heat is lessened. it gets far beneath the natural warmth, we raise the heat of the Part with Poultices with Mustard or we apply a hot Balm. In Scotland they apply the hot Balm w^{ch} produces real Inflⁿ or they rub it with Onions to rouse the Circulation to Action.

Sound Parts w^h have no Disposition
to heal. 61

In Indolent Tumours we must rouse the Parts to action. When a Part has been long swelling the more fluid Parts of its Contents flies off and when opened we find it contains a gluey Fluid and a hardness like Bone.

In bad Abscesses we meet with gluey Matter or with Crudly Matter, the Part dont ulcerate the matter is a long Time in coming up to the Skin, Indolence in the Gats of many Abscesses is common. Whether the Indolence in many Cases be owing to some specific Disposition in the Body is uncertain, but its often owing to an Indolent Disposition and nothing specific in the Indolence. We should distinguish whether it arises from Indolence in the Disposition or from something specific.

Sound Parts w^{ch} have no Dispositon to heal.

It seems that indolence in the Furca Vaginalis
and in Encysted Tumours on Bone or the Persons lying
in an horizontal Posture for a length of Time is owing to
much Indolence and nothing Specific.

Cure.

In Cases where Indolence is, we must endeavour
to increase resolution if Possible, to do this we must increase the
Powers. In Adhesive Inflammation to promote resolution
we bleed &c. but in this Case of Indolence we do the Contrary
In Indolent Parts the more violent Inflⁿ we bring on
the more we are likely to change it and carry it off, but
the Inflammation must not be so great as to destroy, if we
cant bring on resolution by this means, then we endeavour to

Cure of Indolent Tumours, &c.

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bring on Suppuration. —

In Cancer and Schrophula we produce no good Eff^t we can only increase the Disease for we cant change the Cancerous Matter by producing laudable Suppuration.

Schrophous Cancer Schrophula, will not admit of resolution by Producing Suppuration. these are Specific Diseases and we cant change their specific Quality by suppuration.

In Indolent Tumours we endeavour to alter the Disposition by producing resolution we stimulate with Mercury, but there is any Eff^t we must use Mercury, we know Mercury will Produce great Irritation, & Fumigations of dry'd Herbs will be usefull. Fumigations of Cynabar or Steaming with the Essential Oyl out of Herbs. if these dont answer to remove the indolent Disposition, we then use

Cure of Indolent Tumours & Suppuratⁿ

Poultices of Mustard Seed Horse Radish or
some of the warmer Gumres. but resolution by
these can't be effected.

When the Inflammation is run beyond the
Point of resolution we endeavour to promote the supura-
tion by heating more Stimulants should be used, but the
parts will often retain their old Disposition of Indolence
when this is the Case bring it to ulcerate as soon as you
can, but don't open it too early, when proper to open
do it largely even a Curved Incision may be necessary
and Scavify the Edges, and after this we must produce
a Speedy ulceration, by this means we alter the indolent
disposition and Cure if any open them freely
and in these Indolent Dispositions ^{the free openings} are not sufficient they

Cure of Indolent Tumours & Supurations ⁶³

should be repeated.

When the Matter is smooth and shiny the Granulations are often dark and smooth these appearances are very bad, we use many means to produce a healthy State, to do this we use Balsams in some they do good in others they do not we must change our applications to suit the Sore, the Balsams are often mix'd with the red precipitate this is often usefull in changing the Part to fine Granulations.

Tincture of Myrrh is of great use but it should be apply'd often as it dries up very soon.

We should also use Solutions of Alum and Decoctions of Bark and Solutions of Caustic alkali these and many others are used and if the Discharge is large we should use it three times a day at least.

Cure in Indolent Tumours & Supurat^{ns}

In the Curative Part we see what few medicines we have as they all fail us, and we do not know what will suit the sore till we have try'd it, if they dont suit we must change to others.

Of the circumscrib'd Abscess.

• M^r Hunter cant Class Medicines in Ulcers he has endeavour'd to know What would in one Sore and what would do in another, but this he never could do.

The circumscrib'd Abscess is often very Indolent and often begins in a Gland, and in a Lymphatic Gland they seldom effect the common Cellular Membrane till they are near suppuration, there is something Specific in these Cases, they are often long coming to Suppuration

Of Circumscribed Abscesses

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sometimes they suppurate very small, they are less of the suppurative than the Dissected kind.

The Matter in these is of Two kinds.

In the first the Matter is diffused and of the Pus sort.

The 2^d kind is were the solid Parts retain their colour but swell to an enormous size they are often solid. — Excision in this 2^d sort is the Best Treatment, he thinks there is something Igneous and should be excised, he says that simply opening them makes them worse, he is for excising of both kinds as the most certain way. — The only Difficulty in taking them off is from their situation. — Tumours on the Neck are very difficult to remove, we have the Jugular Vein with large nerves and Arteries we must be very careful as these Parts are necessary for Life and wounding them Prove immediately Fatal.

Of Abscesses wth Inflammations in Irritable Habits.

We have spoke of Abscesses & Sores not having the
Disposition to heal from Indolence, but there are many
troublesome Complaints arising from irritability or
Habits too susceptible of irritation, which over act their
Part.

Irritable Habits over act their Parts instead
of under acting, these cant set about repairing the injuries
done — Great sensibility and great irritability generally
go together, when they do go together its owing more to Consti-
tutional Causes than Local, but they are not always Consti-
tutional, sometimes Parts put on an irritable Habit from
the Disease not originally being in the Habit, they are

Of Abscesses. w^{at} & Infl^{no} in variable Habits.

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known by a Disposition to Inflammation, and in variable Habits this Disposition goes on without stopping the Inflammation spreading, it seems to be a Mixture of the suppurative and Erysipelatous Habit.

Variable Habits are often attack'd with Erysipelas strong Habits are attack'd with phlegmonic Inflammations running to suppuration, and good Matter is form'd.

In Lovable Habits or weak Habits the Erysipelas runs on, and watery Excretions arise all round, and the Cutis looks as tho' Blistered, and spreads, the Inflammation ^{terminates} in an Edge, as on the Fingers and Toes, these seldom terminate in suppuration.

The treatment in Indolent and Variable Habits are different in general, and its generally owing to a fault in the Constitution.

Treatment of Irritable Habits Sores, &c.

In the first Stage of Inflammation in irritable Habits we must avoid every thing that can irritate, we must promote Resolution, if possible, as the Powers of the Body can't produce Supuration — a Poultice of Bread & Water is the most unmeaning we know of, but to this we always add Opium, and foment with White Poppy Comentation, we have no Medicines, lessens the Powers so much as Opium — Milk may be as well used as Water, for they do nothing — In strong Habits Poultices do nothing, to prevent the irritation we apply Opium in the Poultices with great advantage.

If an Abscess forms we must ~~not~~ open it, but not with the Knife, this in irritable Habits inflames too much, we apply Caustics with Opium, the Opium takes off the irritation of the Caustic without preventing its Action.

Treatment of Irritable Habets Sores. &c.

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In these Cases warm Dressings irritate too much, the best Applications are the mild ones consisting of Milk Bread and Opium and in the healing State Turners Cerat is the best Dressing or Bees Wax and Oil.

Lead applied to the Parts are often very serviceable, Bark inwardly is of great use, and we find that dry Suit only will inflame the Part.

The Inflammation round the Part is often from Irritability. — In a Boy with an irritable Habit, a Poultice was applied but it was too irritating, Opium was added then the Poultice was of infinite service, in this Case doing nothing irritated too much, but upon applying Opium to the Poultice it cured.

J. H. attended a Man with an irritable Habit he

Treatment of irritable Habits Sores &c

knew he had an irritable Habit by the slightest scratch festering he dresses him with Bread and Milk Poultice and R. Thebaic. and as it gets well he dresses without the R. Thebaic. and in its room uses Turner's Cerat, Opium is continued in the Poultices till the irritability is gone of. R. Thebaic. is put on the surface of the Poultice and is worked a little into it continue it till the irritability is removed.

Fistulas,

This Title gives but an inadequate Idea of the Disease as it is the consequence and continuation of the Disease that forms the Fistula

Fistulas are divided into two kinds the 1st kind is

Fistulas.

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for the Passage of a natural secretion as in the *Fistula Lacrym-*
-alis or *Fis. Sericus* which is a passage for obstructed Urine, or in
the Parotid Duct where the Gland is wounded and discharges the
Saliva that way, the duct being stop'd up, - or an artificial Anus
is an artificial opening for the discharge of Faeces.

2^d kind of *Fistulas* is when a passage is made by Matter
to discharge itself from an unsound Part.

Fistulas arises in many Abscesses which would very
readily heal but the matter is kept in the Part by the Contusion
of the Body and by pressure on the Part keeps up the *Fis-*
-tula.

Another Cause of *Fistula* may be from Indolence, when
the Abscess is form'd on Bone Tendon or Ligament. - or it
may arise from Parts being Indolent to heal.

Fistula

Fistula in ano generally has its seat 3 or 4 Inches up the Rectum, the 1st Process is violent Inflammation with Fever pain, and ends in Abscess, - we often find the Gut gives way and the matter passes in to the Gut. at other Times it discharges itself externally.

In Fistula's in Perineo whether the Disease is in the Prostrate Glands or other Parts, it seldom heals up. something must be the Cause more than the Matter discharged, but when the Disease is deep seated, it prevents its healing. - The seat is in the prostrate Gland and a fair opening is made all the way, yet the Parts will not heal again. this is not a Disposition in the Parts to heal it must be owing to the Prostrate being some where Diseased, for in cutting for the Stone the Prostrate is cut all

through and Matter and Urine are discharged through it, yet the Prostrate is healed up in 3 or 4 Weeks but in the Case of the Stone the Prostrate is in a sound State, but in a Fist in Perine, we find its the Contrary, we cant get it to heal, this shews that its not the Depth of the Disease that is the Cause of its not healing.

M^r H. had a Case in w^{ch} after making a large opening the parts all healed till they come to the Prostrate Gland and where the Urine runs this part healed just like all the rest but a small fistulous Orifice remained unhealed, he said this part was not in a Disposition to heal. when the Disease comes to one fixed point this is commonly but one Canal leading to the surface, but when there are differant Points there are generally sinusses to each.

Cure of Fistula

The great Care in Fistulas in general is to expose the Part and heal from the Bottom by Stimulating Medicines and preventing the external parts from healing before the Bottom is quite sound.

In all Fistulas we must first remove the first Cause

In Fistula Lacrimalis the Tears are drove down the face, the Duct is quite stop'd up, that the Tears cant run into the Nose.

This Disease arises from various Causes the Small Pox inflaming the internal Membrane of the Lach. Sac will produce it, or the Sac and Duct may be Dressed.

from venereal Poison obstructing the opening of the Sac and producing inflammation on it, the Matter is discharged on

Cure of Fistula.

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the Part till the natural Passage is opened w^{ch} cant always be done for the Disease has often done too much mischief we must make a new Passage, for in this Case we cant open the ~~old~~ one, by pulling the Probe up the Nose you will find the Septum and side of the Nose adhering together, we must carefully examine what mischief is done, in this last Case we cant do this operation we must run the Probe into the Mouth to make a Fistula that way.

The Fistula of the Parotid Gland is cured by making a new opening and keeping it open as long as possible. To prevent its healing by this means we make the Parts Fester & so.

Fistulas in the Liver Lungs and Psoas Muscle are incurable we must in these Cases attend to the Constitution and keep them open.

Cure of Fistula

Fistula in Ano arises from an Abscess arising near the Rectum and is easiest cured. — the Gut is often got diseased, we must slit the whole length of the Abscess. — we must be carefull not to leave any Cœcum or Sinus unopened above in the Rectum, if we do we shall have the operation to perform again — every Part must be laid open and drop to the Bottom.

B. If an indolent Tumour should suppurate from Indolence ^{ch} is sometimes the Case, it is the worst sort of Suppuration therefore it should be prevented.

In Fistulas in the Urethra arising from Stricture, its often cured by removing it, but we often ^{find} that the Urethra is quite Diseased. O

Diseases of Bones

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Bones are ~~as~~ subject to the same Diseases as other Parts of the Machine.

When a Bone is laid bare by any Disease its generally called Carious, but the distinction betwixt dead and living Bone has not been sufficiently attended to — when a Bone is dead it sets about exfoliating. when a Disease goes so far as to produce Death the whole of the part dies.

Diseases of the Bones are not sufficiently understood — we say when a Bone is diseased that its rotten — this is no Idea of the Diseases

Bones have always been considered apart from other Parts of the Body, in their growth, Structure &c. but many of their Diseases are not different from Diseases of other Parts.

Diseases of Bones.

The Cause of Disease in Bone is not different from the Causes of Disease in other Parts.

The Bones suffer from Scrophula Venereal Inflammation &c. and in their diseases have the same Appearance as other Parts. Their Diseases should only be considered in regard to their Treatment as differing from other Parts, — As the Structure of Bone is more solid, the Treatment must be different.

We refer Diseases of Bones as similar to Diseases in soft Parts.

A diseased Bone is a Matter of very serious Consequences.

1st Bones on account of their Solidity are more tedious in their Cure.

Diseases of Bones.

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2^{dly} the tediousness in Cure may be owing to the want of Power in bones to heal.

3^{dly} its impossible to say how far the Bone is affected by the Disease, as we have not Sight of the Disease we generally can only probe for it.

4^{thly} the Backwardness to heal in Bones may be owing to the Quantity ^{of Earthy} Matter it contains.

But we find the hardest Bones are quickest in exfoliating. — when Bones have exfoliated they soon heal.

Bones receive their Nurishment from the Periosteum Ligament &c. on this account when a Bone is laid bare it generally dies.

Bones themselves are bad Conductors to Blood &c. from this they soon die. Nature has covered them with

Diseases of Bones.

Periosteum for their nourishment when this is wanting they die from want of proper nourishment, as they have very little Circulation. If the Periosteum covers the Bone in amputation it will heal without exfoliation, but if the Periosteum be removed tho' the Bone be covered with Flesh yet it will exfoliate.

A Cure is more lasting in a soft Bone than in a hard One.

A crooked Person is hardly ever free from Diseases of the Spine often produce a Plectic from the bad state of the Bones.

Diseases from Accidents in general.

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A Blow or Cut on a Bone will often deaden the Part for some Depth.

A Stroke of a Hammer will make a Dent in a strong Bar of Iron, but on a small one it would not. If we strike a soft Bone it gives way but if a hard Bone there is a considerable Contusion betwixt the Bone & the Skin, but Bones often run into Diseases from slight Bruises &c. for in Scrophulous Habits we have the Diseases shew itself if the Bones are injured.

If the Blow is so violent as to deaden the Part the Exfoliation will follow and it will heal up.

We generally call all Diseases of the Bones Caries the Caries is properly an Ulcerated and makes part of the Abscess in the Bone these are as various as in other

Diseases of the Bones from Accidents in general

Parts and When any difference arises its from the Peculiarity of the Part

Caries is dry and moist.

The dry Caries is said to exfoliate soon, but the Moist is were the Bone is diseased in the state of an Ulcer, to bring this to exfoliation we apply the actual Caustic w^{ch} by drying the Bone brings on exfoliation much sooner, this made them dry the Moist Caries by Caustics w^{ch} practice soon produced exfoliation.

In treating of Bones we are obliged to ^{of}
The neighbouring Parts as they are obliged to
partake in part of the Disease, w^{ch} they do for wise
purposes.

Bones like soft Parts are subject to
3 Inflammations viz the Adhesive, the

Of Inflammation of Bones.

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Suppurative & Ulcerative Inflammation.

The 1st Inflammation should be called Specific Inflammation
This produces union of Parts similar to the Parts w^{ch} it unites
The Suppurative is the same ^{in the Bone} as in other Parts so is the
Ulcerative. But the effect of Specific Inflammation is different
in Bone from other Parts.

Nature gives to one Part a Disposition to form
Bone to form Ligament, Tendon Sinovial &c. and continues
this Disposition During Life, where a Bone is lost, a Bone
is brought instead, were a Ligament is removed, nature replaces
a Ligament, where a Tendon a Tendon is replaced, thus Nature
is constant in restoring the same again. She never puts
one part instead of a nother, this is great Wisdom in God.

Inflammation of Bones &c.

Parts will be absorbed where the pressure is greatest, and where least a cavity shall take place, thus in the formation of New joints, where bones are dislocated where the pressure is greatest the joint is formed and a new substance from Ossific Inflammation takes place and a glandular secretion sets up and Sinovia is. — .

In the simple Fracture of the Extremities Nature first forms a Cartilage, and then she turns it into bone, the Cartilage is made to waste as the bony Substance takes place. — In the Skull Nature first forms a Membrane, then bony Matter arises and the the Membrane consumes away, — A Cartilage will arise in consequence of the Ossific Inflammation &c. &c. &c. — and it will arise in consequence of granulations

Inflammation of Bones &c.

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The Symptoms of Inflammation in Vital Parts, is very different from Parts not connected with Life, and in Bone we have no part unconnected with Life. Joints have very little Disposition to heal.

When an Injury or Inflammation comes on a Bone we 1st feel Pain 2^{dly} a swelling, Pain in an Inflammation of Bone is much more Violent than in Inflammation of soft Parts, the Pain in Inflammation of Bones is a dull heavy Pain, its never acute like the soft Parts, the same kind of Pain attends in Diseases of the Ligaments.

From its difficulty of its swelling it seems difficult to procure swellings of the Bones, and it comes on some times when the Pain has attended.

Diseases of Bones - Specific Inflammation

A Swelled Bone is nearly as hard as in a Natural State, it becomes thicker in itself not from Matter laid on it, but as the Matter was thrown into it to expand all the original Parts, the Patient is much harassed from the long continuation of the Inflammation and Pain.

The Periosteum being fix'd to the Bone takes on the adhesive Inflammation in Bone and thickens from the Inflammation making the Bone appear much thicker than what it is. Inflammation in Bone is long before it thickens itself, but the Periosteum is greatly swelled, this Inflammation has a tendency to the Skin but when the Skin is affected, it then tends to suppuration.

Osific Inflammation.

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The Periosteum and Cellular Membrane which lies next the Bone receive the Osific Power, and the size of the Bone is greatly increased in Thickness.

The Old Lyon in the Tower, was a fine
^{of this the Rheumatic}
Instance, Humour seized the Creature and he always lay down.

The Osific Inflammation affected the Periosteum & Cellular Membr. bringing on ⁱⁿ them true bony Matter, so that the true Bone was covered with a thick covering of spic'd Bony Matter, which was

nothing more than the Osific Inflammation falling on the Periosteum and converting it into Bone, it look'd as tho' the Bone was rotten externally.

• Osific Inflammation seizes on parts only which are near the

Bone. — The Adhesive Infl. is of great use as in Fractures it makes the Part much stronger.

Of Anchylosis or the Union of Bones by means of Fleeshy Substance

The suppurating Inflammation in Bones is the Cause
of that Union w^{ch} we call Anchylosis.

Anchylosis is divided into 5 kinds four of w^{ch}
arise from the above principles the fifth is of a Different
kind.

1st kind of Anchylosis may arise betwixt the Tibia
and Fibula or betwixt Rib & Rib or betwixt Metatarsal
Bone & Metatarsal Bone the specific Inflammation arises and
joins these different Parts together this kind of union may
arise betwixt the Radius & Ulna.

2^d Kind of Anchylosis may arise where there
is an apparatus for this Union in Joint in general, as
betwixt the Vertebra in general. Some backs are often

Of Ankylosis

76

Perfectly ankylosed from the very heavy weights they carry,
a Joint may be ankylosed from the capsula Ligament taking
on the specific Inflammation and unites them, the Humerus
& scapula may be joined by this means. The same Inflammation
may fall on Tendons converting them into Bone, when the
Tibia & Fibula are joined at the Joint its from the specific
Inflammation shewing the Ligament &c.

When the Capsula Ligament is large as in the
Humerus scapula, here is a large Quantity of Ligament which
is not easily turned into bone.

A Lady had many abscesses around a Joint the adhesive
Inflammation was communicated to the Capsula Ligament
of the Joint, and the specific Inflammation then soon produced
Ankylosis. —

The Simple Fracture.

On the same Principle is the Union of the simple Fracture in this Case the Fracture is united by the 1st Intention, here is no Supuration and a perfect union takes Place.

The Principle of union in Bone is owing to Blood being thrown into the Cavity next a broken Bone has a Distraction of its Continuity in consequence a quantity of Blood is extravasated and this Blood forms what is called the Callus. — The Inflammⁿ on the Ends of the Bones produces the Ulcerative Disposition without supuration the Ends of the Bones becomes soft, and absorb up the Earthy Particles, and now the new formed Parts take on the Ossific Disposition and all the surrounding Parts as soon as they are in proper condition to take on this

Of Simple Fracture

77

Inflamⁿ of the Parts get much stronger than before, the Callus is large in proportion to the specific Inflamⁿ w^h takes place.
— The specific Inflamⁿ is small when the adhesive Inflamⁿ is small.

M^r J. H. says Bone runs through the several Kinds of Inflamⁿ as the soft Parts do. — vizt the specific Inflamⁿ in Bone is the same as the adhesive Inflamⁿ in the soft Parts. it has the suppurative Inflamⁿ and the ulcerative Inflamⁿ as the soft Parts have.

This specific Inflamⁿ it is w^h unites Joints by Applying their Capsula Ligam^{ta} and unites Bone to Bone as in the osseal Bones, and we have shown how it unites simple Fractures.

Simple Fracture

Union sometimes does not take Place in Simple Fractures the specific Disposition only thickens the Legam^t without Producing Bone. — For Inflammⁿ of the joints we should be glad to prevent Ankylosis taking Place — we can't account why Earth should not be formed in these Cases, the constitution is often good, we are sometimes obliged to make a compound Fracture, of the simple Fracture, and then the specific Inflammⁿ takes Place, this shews that the Constitution is not in fault.

The Cavity of the Fracture often takes on the adhesive Inflammⁿ without taking on the Specific Inflammⁿ in this Case the Fracture is always very loose and without solidity — why this kind of union does not take in the specific Inflammⁿ we can't say.

Of Simple Fracture

78

W. J. H. says that in this Case the extravasated Blood is always in the Part, but he supposes the union dont take Place from the Blood loosing its living Power, and that it does not coagulate but remains a gory substance as in Bruises and is absorbed up as in Bruises and that in this Case it has lost its living Principle and now acts as an extraneous Body, and stimulates the Absorbents or produces Inflammation and Suppuration, by we have an artificial Joint made were nature did not intend it.

Something like this takes Place in Dislocation when the dislocated Bone is in contact with another Bone a Kind of an artificial Joint is formed. - if a round Bone falls on a flat Bone it will sink into the Flat Bone and a Cavity will be formed, and the Bones will have a facility

Of Simple Fracture.

In cases where union does not take place some Surgⁿ Practice is to make a Compound Fracture of it and to saw of the ends of the Bones, they will then run into the specific Inflammation.

Fracture in a Bone is a Distraction of its Continuity in consequence of w^{ch} a quantity of Blood is extravasated. this fills up the Cavities between the two Surfaces of the Fracture and by degree this extravasated Blood is formed into Vessels and the specific Inflammⁿ gradually spreads and the ends of the Bones puts on the Ulcerative Inflammⁿ wth running into supuration, and the Parts puts on all the appearance of ^{young} ~~new~~ Bone.

If Bones are broken and side over each other the Discontinuity will be great, part may be absorbed.

Nature's mode of uniting in Simp. Fracture. 79

and the Parts around put on the adhesive Inflammⁿ & run into
Ossification

When the Part is not much bruised and the Bones
do not ride their is little extravasation and the Parts heal
without much Inflammation. - young Bones have more
calcareous Earth in general than old Bones. but there is often
a Difference in People of the same Age.

Bones form'd in consequence of Granulations are
not so strong on the Principle of Nature, tho' they are so
mechanically. that is, the Fractured Part tho' stronger mechan-
ically, yet the living Power does not seem to be great, as was
evident in Lord Anson's Voyage, where old compound Fractures
became compound Fractures again, the Cartilage giving way
as well as the Bones -

The original Bone is more firm than new Bone
Simple Fractures become simple Fractures again tho
they had been united many Years and all Ulcers
broke out again that ^{had} been healed many years. by this we
find that new sound Parts when the Constitution is
harrassed and Broke down, give way sooner than old
ones.

Treatm^t & Cure of diseas'd Bones

The Treatment of Bones are differant arising
from the differance of Structure.

Bones when diseas'd admit of two methods
of Cure -- 1st Local Treatment.

2^{dly} the internal application of medicines.
Local applications will very little Power for

Treatm^t & Cure of Diseas'd Bones

80

the diseases of Bones are of such that Medicines are of little use applied to them.

We 1st consider the Nature of the Disease, 1st whether its from common Inflammatⁿ 2^{dly} whether its from any Specific Disease in the Habit. if its from something Specific as the Venereal Disease we use Mercury, If from Scrophula we use Medicines usefull in those Habits.

The Swelling of the Bone requires little Medicine if the Bone is in a State of Inflammatⁿ we treat as in Inflammatⁿ in other Parts, - we bleed we foment, and use antiphlogistics if the Disease is on the lower extremities, we use rest and an Orontal Position, but sometimes the Disease will go on and produce supuration but often they will put on an Indolent Disposition this is owing to the Nature of Bone.

Treatm^t & Cure of Diseas'd Bones

Bone is backward in producing or falling into Diseases
and Bone is backward or very Indolent in returning to a
good State of Health.

As difficult to reduce a swelled Bone, we must
wait for the Earth and Cartilage to be absorb'd up.

The internal remedies are far beyond the
common Method of Treatment in general, Mercury inter-
nally and externally will be often usefull.

has often been recommended in Indolent
swellings of Bones.

Suppuration of Bones.

When Inflammation has produced suppuration in Bones
we have no difference betwixt suppuration of Bone and soft Parts

Suppuration of Bones.

81

The consequence of Suppuration in Bones is ulceration in Bones, we have the Osific Inflammation going on with the Suppuration and Ulceration as in ^{the soft} other Parts.

When the Inclination to form Abscesses in Bones is owing to the Earthy Parts or what can't be said, but its happy, they are not very subject to Abscesses, but we have Abscesses formed sometimes in the Middle of Bones.

In compound Fractures the Granulations 1st take place in the Cartilaginous Texture, after this it turns into Bone.

Manny Sores on a Bone have no Disposition to heal, bone through out granulations the same as Fleeshy Parts. Various preparations to shew it in his Museum.

Supuration of Bones

After Amputation we have Sugar Leaf Stumps. this is owing to laxity of Habit and the Patients being greatly immoriated it seems in these Cases that all Nature is relaxed and deficient and Nature can't keep the Muscles full over the Part.

There is a Contractile Power in ^{the} Granulations to bring the fleshy Parts over, we should assist Nature as much as possible in keeping down the Muscles & Skin for the Skin has a great contracting Power.

The Ends of Bones granulate the fleshy Parts &c.

Suppuration does not so often take Place in Bone as in soft Parts but Bones do suppurate even in the middle.

82

• Abscesses in Bones have three different Situations

The 1st is that which arises betwixt Bone and Periosteum. —

The 2^d arises in the Substance of the Bone. —

The 3^d In the medullary Substance of the Bone. —

The 4th may be said to arise in the Joints. —

When the Inflammation attacks the surface of the Bone or the Periosteum, the Periosteum is always detached, we have a great thickening of the Periosteum which makes it look as if the Bone was very great, but this thickness is not Bone tho it feels like it. we should in this Case open the Abscess, the Bone will granulate and heal up as in other Parts, as far as the specific Inflammation spreads so far will it ossify, — we should not deprive the Bone of its Periosteum, every Part that loses its periosteum will die, the Bones receive their nourishment from the vascularity of the Periosteum.

Situation of Abscesses in Bone

The 2^d Inflammⁿ of Bone arises in the Substance of the Bone, in this Case the Part can't be dislended, — Ulceration must arise.

The 3^d kind of Inflammation is that w^{ch} falls on the medullary Substance of the Bone, the Bone in this Case gets thickened, the ulcerative Inflammⁿ goes on destroying the Bone inwardly, whilst ^{inwardly} often the Bone is thickening often to a great size. frequently the Bone is a new formed bone, the old Bone is almost entirely thrown out to the external Parts, but outwardly the Bone Matter is laid on. — Cure in this last is Amputation, its too often the only Resource to save the Patients Life, and to make it tolerable.

Treatm^t of Bones under Suppuration.

83

In the two first kinds of Inflammⁿ exfoliation takes Place but in the last kind w^{ch} arises in the Medullary Substance of Bone, the Bone is as tho' scraped out or scooped out whilst the osific Inflammⁿ externally thickens it to a very large Size, and the Bone gets so thick that there is little hope of Cure, and gives way under the Weight of the Body - Amputⁿ is generally oblig'd to take Place

The Disease in Bones w^{ch} requires the most simple Treatment is were the Suppuration is most superficial, all the soft Parts w^{ch} cover the Abscess should be removed, especially where the Parts at the Bottom are disposed to granulate we shou^d open the Parts freely w^{ch} allows the surface to granulate.

Treatm^t of Bones under Suppurⁿ

In Bones w^{ch} are diseased its still more necessary to remove the Parts belwixt them and the Parts diseased. Besides as Bone often exfoliate on being exposed, and this exfoliation promotes the Granulations -- for granulations dont go on till exfoliation has taken Place.

Where Bones are near the Surface as on the Skull or Tibia, much new Skin must be formed, in such situations we should not be too free in laying the Surface very open.

Wounds on the Head where the Bone is laid bare will often heal up as simple Wounds without exfoliation.

If we have much new Skin to be made on the Skin Bone, it will be often breaking out again.

Bones often are neither inclined to heal nor to lose the living Principle in this case we shall always be

Treat^m of Bone under Supuration

24

Obliged to lay open the Part, the same as in swelled Bones if this does not do we shall always be obliged to apply the actual Caustic.

In Abscess in the Bone itself we find that the Life of the Bone must be destroyed by the potential or actual Caustic or the Crown of the Trepan must be applied w^{ch} will destroy it sooner than any thing else - after the tedious process of Exfoliation is advanced the Parts must be dressed according to

We are sometimes obliged to remove that Part of the Bone where the Abscess is formed.

Bones are very Indolent, this Indolence must be removed by active Dressings.

Only Dressings have been supposed to retard Exfoliations, but they did not consider the Indolence of the Part Mr S. has nothing particular to recommend in Dressings, we

Treatm^t of Bone under Suppuratⁿ

we don't know how far the Disease runs in the Bone, so
he can't tell how long we shall be in curing. - when Bone
has granulated in general the Part is very subject to fresh
Ulcerations, but we find other Parts subject to ulceration after
healing, and its the same in Bone it will often Ulcerate and
break out again.

This affection to ulcerate is owing to weakness
in new formed Parts. - Granulations in general are the
weakest Part of an animal Body and when the whole habit
gets diseas'd the Ulcerizes on fleshy or Bony w^{ch} were many
Years heal'd up will now give way. this was the Case in Lord
Anson's Voyage.

Abscesses in Joints.

85

If an Inflammation is carried on so far in a joint as to produce Suppuration, an Abscess is formed, this will break and discharge itself as in other Parts, but Abscesses in Joints are very indolent in producing suppuration being principally composed of Bones Cartilages and Ligaments. — The suppuration in these Parts is seldom of the true kind, we have great Pain and thickening of the Part, the Disease is between the adhesive and suppurative Disposition, the ulcerative Disposition is long in bringing it to the skin the Disease is very tedious in its Cure, — opening them freely has very little effect when the Inflammation on a joint has affected the Ligaments &c. it soon affects the Bone itself, the Indolence of Ligaments and Bones its work makes so tedious and incurable.

Abcesses in Joints.

In many Cases of diseased Joints the Parts slough
off and exfoliation often arises, this often produces hectic
Fever and often destroys, - when the Parts are tolerably sound
and suppurating kindly, they will heal like any other abscess
if it does not so it produces an Anchilosis, but they often
destroy the Patient by producing hectic Fever.

In Inflammation in the Chest the Pleura often suppurates
and the Inflammation goes off without producing Granulations
when the Joints suppurate and heal up by Granulations it
produces a soft Anchilosis, but the soft Anchilosis will often
degenerate into the Ossific Anchilosis, - another species of
anchilosis is by means of Granulations ossifying. he shows
Preparations of all these Kind of Anchilosis.

Of the compound Fracture.

86

The same thing takes Place in compound Fracture as does in Abscesses. the compound Fracture arises from the broken Bone not healing up by the first Intention. Granulations in compound Fractures are necessary to produce Union, the same as in soft Parts, these Granulations take on the ossifying Union and become firm Bone.

Compound Fractures must inflame, granulate and ossify, its this that makes compound Fractures more dangerous than simple Fractures. the Inflammⁿ is generally very extensive & large, the Laceration in compound Fractures makes a larger Sore, than even amputation does, - and this Laceration often obliges us to amputate.

Compound Fracture is not so bad as an Abscess in a Joint, for the Wound in a compound Fracture is in a round

Of the compound Fracture.

Bones, but in an Abscess of the joint. the diseas'd Part keeps up the Inflammation.

In simple Fractures the Parts are united by means of extravasated juices, but in comp^d Fracture the Parts are united by Granulations.

In compound Fracture the injury is done in a sound Bone, but in Abscesses of Joints the Cartilage &c is indolent in taking on Granulations consequently more difficult to Cure.

Of Fractures not uniting.

We are now come to describe the Matter, w^{ch} is discharged from Bones.

The Matter w^{ch} is discharged from Bones is very seldom good Matter, & the diseas'd Part soon produces good

Of Fractures not uniting.

87

Bone, the granulations being small we have slight bleedings from them, they are ~~rubbed~~^{ru}bed by the diseased Bone and small Pieces of Bone are often discharged, the Blood mixed with the Matter gives the discharge a brownish Cast.

The soft granulations being rub'd against the unround Bone, it bleeds a little and from the irritation now produced by the fracture the Discharge is often Putrid and this discolours Silver. Mr. H. cant tell why putrid Matter should turn Silver Black, good Matter has less disposition to become putrid than Blood itself. (Sure does not the Matter become putrid from laying so long in the Ulcer.

We can always distinguish a diseased Bone when Ulcerated, whether the opening be great or small, by the Granulations w^h surround the Opening, this fungus

Q Of Fractures not uniting.

Flesh always attacks in good Constitutions, it will not heal but remain in a fistulous State, whilst the Bone is diseas'd, the Parts surrounding the Granulations looks unsound, the same appearance surrounds the Granulations in Spues.

In cutting for the Stone, if the Prostate Gland be unsound we shall not have the Part heal up and the same thing takes Place in the Dickela in furins. J. H. says the unsound Part produces a sympathy to the Granulations and Skin to ~~prevent~~^{prevent} union untill the whole is sound—

Quere, is it not the Matter grown Putrid in these kind of Abscesses sores w^{ch} prevents their Healing.

98

Of the readiness of new form'd Bone to
Ulcerate.

Bones that are new form'd after fractures or Inflammation of the Bony substance, will often run into the ulcerative Inflammation same as soft Parts wch have heal'd up and created and this new Bone is more subject to Disease than Old Bone - Inflammation will run into ulceration, this simple Fracture will ulcerate and produce an Ulcer in the soft Parts

In compound Fractures we always have Suppuration and Granulation takes Place to produce Union - in simple Fracture ^{the adhesive Inflammation} takes Place, without Suppuration - The new form'd Bone wch is produced by the adhesive Inflammation or in other words

by the Luxe by the 1st Intention in Bone, is much more lasting than that wch is produced by Granulations, as in the Case in

Q Of the readiness of new formed Bones to ulcerate
Compound Fractures, for in Comp. Fract. Suppuratⁿ takes
Place in the external Parts w^h were lacerated, and in the bony
Substance, were the Fracture was but in Simp. Fract. supura-
tion takes place in the Bone only without affecting the soft
Parts -- this happens in Violent Scurvy &c. —

Cure in these Cases

If the Cause was known we should be able
to Cure, if the foul Bone arises from a scorbutic Habit, we
must correct the scorbutic Habit, if its the Scurvy arising
from a Sea Voyage, we must carefully avoid every measure at-
tending Sea Voyages that promote this Disease, if the Disease
arises from a Compound Fracture, we should treat it as a common
Ulcer, there is some Cause of new formed Bone.

The Cure of treatment of new formed Bone that Ulcerate
Blood extravasated from a diseased Bone, cant take on the
form of new Blood, and as this Blood arises from and partakes
of the Disease, acts as an extraneous Body, it produces stimulus
and ulceration and differs greatly from Blood extravasated in
simple Fract. this Blood is living and runs into the Osseous
Inflammation and here tends to unite the Bone as it does soft
Parts in Wounds.

When Bones get diseased from an ulcerative
Abscess going on, on the inside Nature always lays down Bony
Matter on the outside, thus she continues scooping out and
laying on the outside till the Bone gets very large, but nature
does not lay on as fast as nature scoops it out on the inside
the Bone gets thin and after breaks, this was the Case with
the late arch Bishop's Thigh Bone and in these Cases

The Cure & Treatm^t of Ulcerated Bones.

There is generally some extravasated Blood on the inside
the Blood is like that discharg'd from an and this
kind of Blood was found in almost all Mr George Grenvilles
Bone

Another Disease w^h attacks Bones is a depo-
-sition of Cloudy Substance, such as is form'd in Glands
this is deposited as the Blood is in the other Cases. the
Schoofula is suposed to be the Cause of it.

The Disease in general is too far gone before we at-
tempt to do any thing, he advises to cut down on the Part
and give it a new disposition to heal, and Chang its Nature.

Sometimes he advises cutting down and sawing off the ends of
the Bones by this means we shall often Cure. — and by
making an Incision on Diseas'd Bones we produce fresh
granulations.

Rickets

91

This is a Constitutional Defect in Bone, it appears to be attendant on Weakness, a constitutional Weakness is most probably the Cause of Defect in ^{the} Bone, and not a Defect in Bone itself.

This Weakness is of a particular Kind, its a general Weakness with a peculiar Disposition in the Bone.

Ricketty Bones have not a sufficiency of Calcareous Earth to give them Solidity, and in general in the Rickets there is larger Bones, we know its the Rickets by the large size of the Bones. The proper Quantity of Earth is deficient, a certain proportion of Earth and a certain Proportion of soft Parts is necessary to form Bones, Bones are light or in proportion to the Quantity of Earth they contain.

Rickets.

The Rickets are peculiar to youth the large size of the Bones is owing to the growth going on with an undue proportion of Calcareous Earth and Animal Substances.

Oil and calcareous Earth are not animal substances for an Adult to have the Rickets some absorption of calcareous Earth must take Place. Mr Hunter supposes that the Bones have every Year a Change in their Substances and the Rickets in Adults, he says, is owing to the want of fresh Calcareous Earth.

The Bones in Men sometimes lose all their Calcareous without and Disposition to form new.

The effects of Mechanical Pressure in Rickety Habits.

The Bones often bend from end to end by the Action of the Muscles

Cure of Rickets

92

The Cure is not yet known, all that we know is that the Constitution is very weak, and the Body must be rendered very Vigorous, but the weakness in Rickets is of a peculiar Nature. the attempt to Cure by every possible means of restoring strength, we give the Bark, use the cold Bath Sea bathing and proper Exercise, but not carried to the excess of weakening by over fatiguing, too great Exercise fatigues and weakens.

O of Exostosis.

This is in some Measure peculiar to Youth, this is the increase of the size of Bones in particular Parts, its

of two Kinds

1st where its Local and may be in any Constitution,

Of Exostosis.

2^d Kind is a peculiar Constitution.

This increase of Bone often arises in various Shapes and Directions— In these Cases the Bones often swell to a great Degree, sometimes various Bones in the Body and sometimes swell or grow to a very great size they sometimes seem to sprout similar, to the Spur of a Cock or the Horns of an Ox.

We know no method to prevent this Complaint as its a Disposition in the Bone to shoot out Bone the same as the Cock spur shoot out.—

Of the fractured Patella

93

The Method w^h Nature takes to cure Simple and Compound Fractures is very well known, but the Method w^h

Nature takes to cure the fractured Patella is not yet known, the Cure seems to partake of both the simple and Compound Fracture.

The fractured Patella may be said to partake of the Method of Cure Nature uses in simple Fractures, but for it Cure in that way the fractured Bones of the Patella must be brought in close contact, and the extravasated Juices will then unite them, that Nature cures this way we know by the Ridge w^h is form'd on the Patella, but to cure this way the Bones must be bro^t together Directly, for if the Fracture has been any length of Time the extravasated Juices escape into the Cavity of the Joint and then act as in Comp^d Fracture.

Of the Fractur'd Patella

In Simple Fracture the extravasated Juices are the Bond of union, they become, real Bones, but in Comp. Fractures the extravasated Juices waste, and the Bones unite by Granulations, but in fractur'd Patellas the Bones are united by a Ligament & Tenuous Substances, but how this is we cant tell, he supposes that the Coagulable Lymph is thrown out from all Surfaces and even from the inside of the Skin, and coagulates fast, and these coagulated Juices touch each other, and form a Ligamentinous & tenuous Union, Bones that are two or three inches separate are united by this kind of ^{Ligament:} Union, but if the Bones are broken together after the Fracture, immediately they unite by bony Continuity as is proved by the Ridge.

Of the Fracture of Patella

94

The Luxuriance of Callus in the fractured rib is never on the side next the Lungs, the Pressure tho' very gentle is capable of keeping the Callus down as in the Case in fractured Rib, the Pressure of the Lungs in these Cases prevents any Callus Ridge from forming.

The Cure is soon effected where the Bones are soon brought together and the Knee may be gently moved by an Assistant not by the Patient himself.

In Hospitals Mr Hunter says its common to move the Part in a week, but Mr A condemns this too early motion of the Leg. he says it should not be used till after 14 Days.

The Tenderness of the Cures will be in proportion to the distance betwixt the Bones, and their being

Q Of the fractured Patella.

in close contact and soon uniting.

Where the Bones have been brought near together we have no other mischief but simply making the Bone.

The stiffness of the Knee goes off in proportion as the extravasated Juices are absorbed.

Where the Bones are much asunder the Cure is very tedious besides the Bones being asunder, we have four other Causes obstructing the Cure.

1st in acquiring sufficient Strength in the new united Parts.

2^d the Muscles adapting themselves to the new Distance they can't act, they not being accustomed to act at this new Distance.

Of the fractured Patella.

95

3^{dly} the want of extent of the loss of muscular contraction to this new space - in this situation the Muscle must adapt its contraction to suit.

4^{thly} the Muscles cant act till they have strength to act with this new contraction its time will give its new contraction, and gentle motion and time will give it strength.

Of the broken Patella.

The broken continuity of Bone and its treatment is now very well understood. we know that it must have time to unite, an Arm abt 3 weeks, a Leg ~~six~~ a Month a Thigh Six weeks, the loss of the Power of contraction in the Muscles to this new place has not been spoke of, we shall next take notice of that.

When the Patella is completely fractured the

Of the Broken Pallette

extensor Muscle brings up the fractured part very high above the Knee and if its permitted to stay there we have no Power on that Bone but in time the Muscles adapt themselves to this new extent of Ligamentous substance, but it will require a long time to bring them to act. The union in this Case is to be procured by rest then by Passive motion, the Surgeon should first move the Patients Leg this he calls passive motion, after they have been thus gently moved by the Surgeon, our own will must stimulate them to Contraction, and in time by this repeated Exercise we find a new muscular Contraction will take Place. Flexion will soon take Place but extension slowly to promote the Extension he must sit

Of the Broken Patella.

96

in a high Chair and must daily endeavour to raise the leg up.
at first we shall find this Part as the Paralytic, but gradually
he will come to move the foot forwards when the Patient has
so much motion as to be able to bring the leg to an even
and back his toes up which will be difficult at first, but
in time this motion will become more easy, when the leg
can by this motion be brought to a level with the thigh
its sufficient, then to get strength he must support a Weight
on the Foot and when he can support sufficient Weight
he must by degrees raise his thigh and assist himself with
his hands and in time he will be able to use the progres-
sive motion.

Formerly the ends of the Patella were not brought
together but left to Nature to bring on the tendinous Ligament

Of the broken Patella

Ligamentinous fibres to unite them. whilst other
Surgeons recommended bringing the Bones close together
thus in Physick and Medicine we have strange extremes
and absurdities.

When the Bones are not brought together
but the Cure as formerly left to Nature, then the Leg is
made straight and Rest is made use of.

M^r H. had a Lady applyed to him who had
broke both Patellas, and had been a long time lame,
M^r H. put her on a Table and she could not move her
Toes for a Month, but in time she brought her foot
to strait Linc and then to gain strength she put a Pound
Weight to her foot and in time got tolerable.
its exercise that brings strength to the Muscles but that is

done very gradually.

M^r H. recommends bringing the fractured Patella together - the Muscles will often take a whole Month before they will begin to act, when once they begin to have motion they will have strength by increasing the Exercise by Degrees.

Treatment of Fractured Patella & weakness
& Inaction of the Muscles.

When the union takes Place M^r H. supposes it by Granulations but he is not sure, if they are much at a distance he thinks the Cure must be by Granulations but if they be near each other they unite by ^{bony Inflammation in} simple Fracture, this seems to unite sometimes as simple fracture by specific inflⁿ and sometimes by Granulations on the Ligamentous substance.

Weakness & Inaction of Muscles after
Fractures in general

and then writes like Compound Fractures.

The Granulations are very tender
and are very liable to ulcerate.

Muscles in fractures from accident get very
weak but this Weakness is overcome by exercise. but
the action of Muscles is often very tedious and long in
gaining when the Muscles are obliged to take up
a new motion and a new contraction this tedious
ness in the Cure takes place and this tediousness
always arises from the Bones being four or five
Inches distant and united by ligament Substance.

Of Bandages in Fractures &c

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All Bandages that retard the action of the Muscles do mischief and causes a sort of stiffness of the Part. they are of use in some Cases but not where motion is necessary.

The lost motion in fractures is to be recovered by putting the living principle in Muscles in Motion.

All Bandages w^{ch} confine the Motion or lessen it, occasion Weakness, and we find after strains that the Patient says he can't use the Part. they say they are weak and this weakness will continue. — the mind is afraid of the Pain w^{ch} arises from Motion, the Part itself is not weak, but the Patient is afraid of using it.

In Strains Rest at the first is proper until sufficient Strength is gained or the soreness is gone. we then apply our Bandage but not retard the motion of our Joint entirely.

Motion ^{in some Parts} may be hurtfull as in Strains at first.

Of Bandages in Fractures &c.

when the Parts have strength we should use them, - we should not permit the extent of Motion to be used to a weak Part.

We give sleep to a Part by Bandages, so as to permit the other Parts to move freely.

We should always distinguish betwixt animal, and Mechanical Assistance. - in fractures we use Rollers, Splints &c. to confine the Broken Bones in their Places till they are united, - we must gradually loosen the bandages in a Fracture of the Leg, we must stay till the Bone has acquired a sufficient strength to support the whole mechanical weight of the Body, the same in the broken Patella & in strains of the Knee & Ankle and in Muscles themselves they must be get strength, these are contused Wounds and have often extraneous Matter in them, we will be thrown off by Sloughs.

Gunshot Wounds.

99

Gunshot Wounds may be either Simple or Compound
Simple when not attended with fractures or Hem. and termed Comp.
when attend with Violent Hem or fractures.

If the Ball passes with great Velocity it will
produce an Hemorrhage as free as tho' the part was cut with a
Knife. but if the Ball passes slowly there is seldom any Hemm.
and they are only lacerated.

The wounds may be confounded with Fractures.

It has been advised to open Gunshot Wounds
largely supposing something Poisonous in them. but the
badness of these wounds is owing to some extraneous Matter
being introduced with the Ball. I. H. does not see any reason for
opening these unless there is extraneous Matter to be extracted.

In compound fractures we seldom have any of the Bone dead.

Of Gunshot Wounds.

but when Bones are broken by Balls the bone is often deadened and it must exfoliate before we can cure, if the Bone be only dented in we must have exfoliation before it will get well.

In Gunshot wounds its very seldom necessary to open them. Mr Hunter says every one opened them in the Army but himself. we should consider whether opening them immediately will not aggravate the Inflammation which will undoubtedly will come on.

If the wound is Violent and we expect large Inflammation, he advises us not to open them till the first Inflammation is gone. the Inflammation bro't on by the Wound and the Inflammation bro't on by the additional opening we make will frequently, when join'd together, destroy our Patient. When the 1st wound is not very great we may enlarge the wound.

Gunshot Wounds.

100

A Man in full Health is in the very worst state in the very worst state to perform an operation upon. we must in Gunshot Wounds and in all Violent Fractures avoid operating when the Inflammation is come on. we know that when the Infl^m is come on, the Blood from that Moment is greatly altered.

In Fractures of Gunshot Wounds to suddenly to perform Operations is the worst Practice that is.

In Wounds of the Head when we find that the Skull is fractured scalping is necessary to remove the Part in order to assist the Brain.

In Wounds of the Face in general opening is very injurious hereby bringing on additional inflammation.

In Wounds going thro' the Body, here opening will be of no use, if they die its not from the wound not being opened but from

Of Gunshot Wounds

other Causes they die.

In compound fractures we don't often except to extract some extraneous Body, w^h may be extracted, w^h Body if left behind would do more mischief than the Delitiation would do.

The present Practice is not to pay much attention to the Balls themselves, they will lay in the Body for years without doing any mischief at all, any Body that gives the Ball any assistance, if it flies slowly will turn the Ball to go transverse they are turn'd aside in proportion to the velocity of the Ball it will sometimes strike against a Rib and then run almost around the Body.

Fractures from Balls are the same as other Fractures

Gunshot Wounds.

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The Bullet forceps are almost useless but not
totally so.

Necessary Precautions from Parichard.

Consider what relief can be given to the Parts, in large
the Wound if it be small & its necessary to open it do it soon, but
slight wounds seldom require opening.

2^{dly} if the Wound be very large and Violent dont operate
it till the first Inflⁿ is gone off. the Patient very likely will
not be able to bear both Inflⁿ & this Doctrine holds ^{equally} good in
all Accidents as Fractures &c.

In Gunshot Wounds & all others
Surgeons dont operate till the 1st Inflⁿ is gone off

If any part in the Belly is misplaced by wounds
we may perform the operation of Gastrostomy, if a rib

Gunshot Wounds.

is beat into the Lungs we must open to remove the splintered Rib and relieve the Lungs, or if the Cranium is oppressed by a Ball in the Skull we must remove it, but never attempt any of these operations unless you have some very particular Reason & hope to relieve the Patient.

Its impossible to know what direction the Ball is gone, a Ball will pass almost around the Body between the Skin and Muscles it may enter at the Biceps Muscle and be lodg'd near the Dorsal Vertebrae the lodgement of the Ball depends upon the position of the Body when it first entered.

When the slough drops of the passage there the Ball may with more certainty be extracted, the Inflammⁿ being subdued.

Gunshot Wounds.

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Extraneous Bodies stopping between the two Orifices made, we may safely open upon that Body and extract it, as no great Inflammation will come on.

The Course of the Ball may be seen if it runs pretty deep, by a red Line on the Skin where it passed under, they will pass almost around the Body without entering the Abdomen, in all extravasations as in black Eyes the part becomes black but in Balls running the Skin is always red, if the Ball lies near the surface we had better extract least its own weight should direct its Course another way deeper - Gunshot Wounds heal soonest at the surface the Ball goes out at, so that part is the least contused especially if it passed with little Velocity - This holds good in other wounds. - The Probe is of little use in recent Wounds, the finger is the best Probe.

Treatment of the Constitution

M^r H. says Bleeding is greatly recommended in these wounds but he thinks it bad Practice, he says it is seldom necessary to bleed and says that the Inflⁿ in these wounds does not run so high as in other Wounds, we ought to be cautious how we do bleed and when Inflamⁿ is high he advises drawing Blood near the Part by Leeches or by Scarification with the Lancet.

He says the 2^d Bleeding will often kill.
Bleeding in Wounds of the upper extremity will be of much more service than in Wounds in the lower Extremities in wounds &c. much blood is often lost.

Topical Issues L.H. says do not require so much Bleeding as Fevers do.

Bleeding is more necessary in accidents of some

Treatment of the Constitution

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Parts of the Body than in others. Injuries done the Legs do not require Bleeding, but Injuries in the Arms do require it sometimes. If we bleed largely in Injuries of the lower Extremities, the Patient will often sink under his Complaint.

In Fractures and Amputations of the lower Extremities if we bleed we injure them much.

Nature requires more strength to cure Injuries done the Legs than Injuries done the thighs or Arms.

It says in these Cases, Wine, Barks or Cordials frequently do more good than even in putrid Fevers.

Bark is of very great use in all these Cases.

A Bubonecele Case in St George's Hospital

A Man with an old rupture w^{ch} was come Downy, and remained down 9 Days it could not be returned. his Extremities was cold, the pulse small, Countenance Lived, and every appearance of Death, when the sack was opened the Epifloon was grown to the part, he separated the Epifloon from the adhesions to the Part with his Fingers, and in the middle of the Epifloon the Gut was adhered to the Epifloon, this was separated by the Fingers, the Gut was wanting in some parts and the Epifloon adhered to the Guts and supplied the want of Gut, he cut part of the of the Epifloon off and then fastened the Guts to the Opening.

Gunshot Wounds. -- Comp. G. S. Wounds.

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Simple Gunshot Wounds have little to do but to slough off they then granulate and heal.

Compound Gunshot Wounds like Compound Fractures are tedious in healing at first they seem as tho' they would soon heal but they soon become Fistulous and they will not heal whilst any thing remains at the Bottom they are continually vomiting whilst any thing remains at the Bottom the Ball lying is an extraneous Body & keeps it up. when the Bone is exposed we may debate the Bone to extract it or the Ball or any foreign Body then Nature will have room to heal from the Bottom.

When the extraneous Body is superficial we have generally small ulcerations round the Part.

When the Parts are ^{with} fleshy the depression tucks in like the Navel and a fungus flesh grows around it as in Issues.

Comp: G. S. Wounds.

When the Ball is more a bone we have fungus flesh around.
this should be delayed and the Ball Extracted & the Bone exposed.
if a Bone is really dead the Best Practice is to lay it bare.
as it will by this means be soon brought to exfoliation.

It is often said that a Surgeon heals a Wound too soon
before its sound at Bottom. this arises when a wound breaks
out for 7 Weeks after it has healed, but M. A. thinks this is
better than dressing it for for 7 Weeks the extraneous Body
will work out in the same Manner as tho. it been dressed every
Day.

In healing Wounds in general especially Gunshot
wounds near joints or connected with joints move the joints
often to prevent Contractions, however we should stretch the parts
often we must not trust to our patient to do it. we have no help of

Compi. G. S. Wounds

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~~As the~~ The Surgeon cannot do it, we have no hope Substance in these parts, we have no new parts formed consequently we need not half the Contracted Joints w^{ch} are common in Chelsea Hospital. they arise there for want of proper Assistance.

After Inflammations of the Lungs and Pleura we have great adhesions, the same takes place in other Parts.

Wounds made by Ball, Sword &c. into Cavities of the Body.

We divide these into two. 1st Wounds w^{ch} are superficial and 2^{dly} wounds w^{ch} have penetrated and injured the internal Parts.

Wounds of the Abdomen are not always fatal these are very well wrote of by authors. so are wounds of the Skull, but wounds of the Lungs are not so well spoke of Mr Hunter has seen several

Wounds made by Bullets into Cavities of the Body
which have been shot through the Body.

Stabs made with sharp Instruments are generally attended with great hemorrhages the Blood will be extravasated in the Air Cells and will be spit of, this shews that the Lungs are wounded.

If the Lungs and Pleura adhere the wound in the Lungs will be more favourable, as the Blood that does not ooze out will be absorbed.

When there is great extravasation of Blood in the Thorax we find a great pain in performing the operation of inspiration and a great fulness. The operation for the Empyema should be performed as soon as possible before the Blood can have time to coagulate, as this may produce many various other Complaints but in general Dilating the Wound will be sufficient. —

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Treatment of such Cases as require the Parts removed.

It's been the Practice to perform Amputations suddenly on the Field of Battle, but this J. H. thinks very wrong for the Surgeon can't so suddenly make himself Master of the Case and Mr H. thinks the 1st Inflamⁿ should be over before amputating.

It's hard to determine in very bad Cases whether it's best to perform the Operation on the Field or not, but Persons of great Experience have observed that those Patients that had the operation performed of the Field did best.

Not one in ten will recover of an Operation performed suddenly - but in Amputation performed at a proper time and properly done very few die, he says when the amputation is suddenly performed that very few can bear the loss of the Limb and the violent

Treatm. of such Cases as require the
Parts removed.

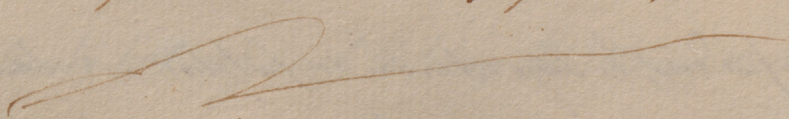
Inflammation that must arise from the Amputation.

It therefore advises in all Gunshot Wounds and in all kind of Comp. fractures that we permit the 1st inflammation to go of before Amputate.

If the Part we amputate be the upper Extrem. there is very little danger in amputating, but if it be the lower Extremity there is great Danger.

When a Limb is almost tore off then we must Amputate.

In some violent Hemorrhages we are obliged to amputate, and we may do more mischief by searching after the Vessel than by saving of the Limb.



Of the stopping of Hemorrhage. 107

An Hemorrhage is the Natural Consequence of a wounded Vessel and always attends wounds made with sharpe Instruments.

An Hemorrh. has two effects the 1st is a good one and attends the Wounds of small Vessels and in simple Fractures in these it produces a union of Parts - but its 2^d effects are often very dangerous and these happen in large Wounds in Aneurisms and in simple Fractures where large Vessels are tore around or in Diseases w^{ch} corrode the large Vessels. and in Hemorrh. returning after Amputation.

To prevent the Hemorrh. we must stop up the Mouths of the Vessels but this is often very difficult as in Aneurisms. in Corrosions of the Artery from Disease and in Excuries done by accident where the Vessels are deep seated in this Last Case the Vessel must be stop'd or they will bleed to

Stopping of Hemorrhages.

Death, in some of these Cases the Tongue cant be applied where it can the Hemorrh. can be easily stopp'd - the Difficulty arises from the Blood running over the Vessels as soon as its wiped of - in some Cases we are obliged to take it up at random.

We have three ways to stop Hemorrhages.

The 1st is by stimulants, but Dr Hunter thinks these effect the smaller Vessels only, they have a power of Contraction equal to their Diameter. Oil of Turpentine is the best of these applications, it should be applied to the naked Vessel the Blood being wiped clear of that the Oil or any other Medicament may come into immediate contact with the Vessel.

2^d Method of stopping Hemorrh. is by Chryseale, viz^t by the actual Caustic, these are wounds and Operations where

Stopping of Hemorrhages.

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nothing else can be applied viz in bleeding from Bones as in the Mouth in Calves Gums &c. we are obliged to use this Method.

The Actual Caustery should not be too hot it burns the Part to a Linder and then it will be soon thrown off by the Vessels. the Iron should not be red hot it should be as large as soon as the Part will take up Water boiling hot might answer the same purpose as the Actual Caustery. Aids.

The Mechanical Method of stopping Blood is of two kinds. 1st by compression on the Vessels. 2^d by Coagulating the Blood so as to stop the Mouths of the Vessels and then by filling them up. we can apply spongy Bodies to the Mouths of Vessels these increase the surface of the Parts and by that means promote Coagulation.

Lent. Downsa that Cobweb. & Agaric have been used all

Stopping of Hemorrhages.

with the same view, these methods can only be used in ~~the~~ small Vessels, in large Vessels they can be twisted the now and then it may answer, after some Days the Power of the Blood removes the Coagulum and the Hemorrhage returns.

The 1st mechanical Method of stopping the Blood is by ^{compressing}, this is the safest, we should always use this means in bleeding from large Vessels this is by Ligatures its painful in the time of application and some have attributed Spasms Convulsions and Lock jaw to including the Nerve in the Ligature, but this is not true, all the spasms wth arise are owing to a peculiar Habit and they take place as well wth the Ligatures as without it. he thinks the Nerve may as safely be tied up as any Part of the Body.

Stopping of Hemorrhages.

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We have two Methods 1st the Needle & Thread

2^{dly} the Pinaculum & Ligatures, the Needle is the best

and in many Cases very Necessary if the Artery is sound

we may take it in alone, but if the Artery is not sound or bony

or if your Patient be old you should include a quantity of flesh

as the Artery in old Subjects has lost its elasticity.

In all Cases when much flesh is taken in with the artery, our Ligature must be thick and strongly tied, the ligature will soon become loose by Nature. When we tie the naked artery a small pressure will close its sides

An Artery in the center of a Muscle or any thing hard should be tied with the surrounding Flesh, if we go to draw it out with a Pinaculum we find the Artery will not come out

of a hard Body. The Pinaculum can only be used on a sound Artery and were the Artery lies in the interstices of the Muscle.

Of the Properest Applications as Dressings to Fresh Wounds.

One Mode only is necessary in dressing of Wounds.

The Application to Wounds in this Country has been dry
Lint - its stopping hemorrhages has been the Reason of
using it, but he says Lint is a very bad one as adheres to the
surface of the Wound, its glued on by means of the coagulable
Lymph and the Granulations often unite over the Lint,
this makes Lint a bad Dressing.

The Lint gets loaded with Blood and makes it
very bad and Painfull.

He accommends poulticing as the best appli-
cation to a fresh wound and even to stumps he says that
is to inflame the Poultice is best but the are not always convenient.

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Of the properest Applications as Dressings to
Fresh Wounds.

Poultices are made too thin. they are removed by their own Gravity. they are of the Sore being too thin. he says he makes them all himself. they are made of stale Bread & Milk. this makes them too brittle. the Meal of Linseed is the best and always keeps in one Mass. he takes Boiling Water and sprangles Linseed meal into it till its thickened sufficiently, then he applies it.

During the inflam'd state Poultices are the Best
then we may alter.

Some Wounds must be kept open here Poultices
won't do.

Some Wounds are in Cavities here Poultices cant
be applied.

Some of the Causes of Mortification

Life is only a simple Property in Matter which we can define. Life is the property of preservation & action of the Body. Death is a total loss of Life, the loss of the Circulation is always attended with Death.

The Loss of Life in a part is called Mortification its very different from universal Death, the original Construction is the same in the dead as the living Body; this is not the case in Mortification for in this the Animal Vessels are destroyed and we cannot possibly inject them as we can a Dead Body.

A Part simply becoming Dead seldom or never happens without Mortification a dead Part attached to a living Part becomes a stimulus to the living Part its through it
off

Some of the Causes of Mortifications

Inflammation is an increased Power or an increased action in the Parts.

In Mortification the Power of the Part is lessened but the Action is increased.

Parts Fast (Bit &c.) may produce Inflammation and Mortification from increased Action.

Young subjects have Inflammations come on the Part injured. But old People or exceeding Weak & Scurvy Habits have Mortifications take place after accidents, this arises from Vessels over acting, they act beyond their Strengths.

The Lizard & Toad naturally retire into some secure hollow and live thro' Winter in a State of Sleep, all this time it lives on itself and in Spring time is found very Weak, the Animal by Spring receives a Gradual Warmth

Some Causes of Mortification

and his torpid Machine is awaked and brought into Action in this Cold it will subsist for 12 Months, but instead of a gradual Warmth its brot into great Warmth the Vessels in its Body are brot to act beyond its Strength and the Part mortifies, and this is the Case in the Case when People are Frost Bitten, If the Part is put into warm Water, the Vessels are roused to act beyond their Strength and the Part mortifies, but if they have a very gradual Warmth applied, ~~the~~ the Life of the Part will gradually take Place, the Vessels will gradually be dilated at the minute Extremities and the Parts recover.

Mortifying Parts have an Action far Superior to the Strength of the Part.

People subject to Erysipelas are of a Weak relaxed Nature.

Some of the Causes of Mortification

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Parts are lost by long continued action as in Compound Fractures, here the parts act so long & so strong as to destroy themselves by mortification.

The weakness or predisposing Causes to Mortification are many viz^t Old Age, Hunger, Cold &c.

Some Mortifications take place in Constitutions which seem tolerably healthy, at first they have a prominence and the appearance of Inflammation and its a local Disease, the Inflammation is often circumscribed, not diffused like the erysipelous and suddenly this sinks in and a Mortification takes place. This is called a Carbuncle its owing to something wrong in the Habit and seems to be a very great Inflammation taking Place in a weak Habit. the Cellular Membrane is erysipelous and the skin of a livid red colour.

Some of the Causes of Mortificatⁿ

with the Compyematous appearance: the Sumified Parts all at once smelt & die. In this Case Cordials & Wine were much used: but they increase the Action without increasing the Power, as is evident with People who drink too much Wine but there is an appearance of increased Power, the Parts over act their Part. then weakness takes place.

Bark has the double effect, it increases the Power and lessens the Action of the Part and is in these Cases a most salutary Medicine.

In the Carbuncles many die, but they never die from true Suppuratⁿ.

Let us compare Practice with y^e Theory above mentioned weakness, or a want of a Power to act, Practitioners are aware of and to remedy it they give Cordials Wine &c

Some of the Causes of Mortification

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The general effect of Cordials is to increase the action without increasing the Powers consequently improper.

Wine in general weakens men after drinking it more than drinking it more than if they had drank none at all. they produce an action beyond the Power of the ^{Animal} ^{Powers} and consequently the Patient sinks under this great action and the Man is weaker after the effects of the Wine are over and thus it proves hurtfull.

Scarifications are recommended in Mortifications and after them Surpintines & warm Balms, but they are very improper. (by these the Action of the Part is still increased) - To treat wisely we should increase the Powers and lessen the Action for this the Bark is the only proper Medicine we can use.

Some of the Causes of Morbification

Laudinum will lessen the action tho it will not give strength.

Antimonialls will lessen the action but will not give Power nor increase them.

What is the difference betwixt Bark & Cordials?
We know that all Cordials must be continued, if we dont continue the Dram or Cordial we always find them low without it, and if we continue it, it will produce Dropsies.

But if a Man can take Bark he does not lay under an obligation of continuing it, he can leave it off with impunity, this cant be done wth the Cordials they require a constant repetition.

Means of producing Death in Parts of the 114
Application of Caustics.

Death as before observed takes place from a Difficiency of the living Principle. Death is also bro^{ught} on from the application of Actual & Potential Caustery.

The actual Caustery is used to deaden & wear it.
Bones.

Caustics are generally fixed Alkalies, they are made Caustic by taking away their fixt Air. Dr Black found out that it was from being deprived of their fixt air, that they became Caustic, - a redundancy of Air renders it mild again.

The operation of the Caustics on the Animal Body is not owing to the Action on the living Principle, its effects are produced by destroying the Parts themselves, but in strong Constitutions they wont act so violent as in weak Habits

The Application of Caustic continued

in weak Habits the Lochia is ^{always} much deeper, and has
a greater slough in strong Constitutions we always have
the Caustic soon saturated.

The 1st effect of Caustic is to produce a
Blister, this is filld with serum w^{ch} unites with the
salts and makes ~~this~~ thin and this makes it spread.

First apply your Caustic to the Skin when
that is blister'd let out the Serum wipe it dry with
Lint on a Probe, then apply it to the Cuti and as it
works in wipe it off - then apply a little more and
the Part will be opened. this method will take up
about ten minutes but it is a neat way. but it is
Painfull. by this means we have the Abscess opened
at once.

The Application of Caustic continued

The Lapis Scepticus of Lewis is the best for this Purpose
Common Alkali. — we use quick Lime and soft
soaps mixing them together, as soon as the Action is gone thro
the Parts deadned.

The Concentrated acids have been used for Caustic
The Vitriol Acid may be used.

Means of preventing Pain from the
application of Caustic.

As the parts are destroying the Pain is very
great opium takes off the Sensibility — extract of
Opium instead of Soap will lessen the Pain and an
opiate should be applied an hour before applying the Caustic.
The Caustic may be mixed with the Ext. Opium instead of Soap.
Mr. H. applied it Opium to one man & with soap to a nother and
says were opium is applied there is very little Pain.

Of the Disease w^{ch} produces Death
in a Bone.

The Actual & potential Caustery are used to
produce exfoliation in Bone, this Practice seems to
arise from an Opinion that all diseased Bone would
an exfoliation, but this is very erroneous for a diseased
Bone can live under a Disease the same as all other Parts,
Caustics & Causteries only produce Death in the Part
and by this means the produce exfoliation.

The actual Caustery will produce Inflammatⁿ
in the living Bone. and by this means Nature will exert
herself and thro' of the Part.

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The Kind of Bone w^h is easiest of Exfoliatⁿ

The Bones of adults exfoliate easier than those of Infants

all the hard Bones and all the hard parts of Bones exfoliate sooner than those w^h are Spungy. the power of Life in hard Bone is less powerfull than in soft Parts. a soft Bone may go on much longer under a Disease than a hard Bone can.

Of the actual Caustery

Although it seems a cruel Operation yet its the best it first deadens the living power of the Part where it is applied 2^{dly} it stimulates the Part where its put, by this 2^d means its rendered of much use.

If there is a considerable swelling of the Bone the Iron should be hot and be applyed for some time but we have need to continue it so deep as the Diseased part.

Of the Actual Caustery.

A Change in the diseased Part is bro't on by this Inflammⁿ w^{ch} is bro't on by the Caustery - after this internal Medicine may be of use.

Sometimes the Disease goes on in spite of all our Effects. - he thinks ^{that} if Nature would always fill it up with Bone, we should remove the whole of the Part as we can't destroy ^{with the Caustery} the whole of the Diseased Bone, we are thereby fail'd in our Practice and success of Cure.

Of Mortification

When Life ceases in a fleshy part it is called Mortification when it falls on the skin its sloughing on Tendons & Bones Exfoliation.

When a part of the Body is become dead, the living

Of Mortification

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Parts are stimulated to thro' it as it now acts ^{as} an extraneous body, thus all parts of the Body are thrown off in the same way and on the same principles, all parts that are to slough set up a new Circulation of new formid vessels for that purpose there is a greater number of new formid Vessels set up to slough a Tendon than to slough a Muscle. The Skin and Muscles slough sooner than Tendons and all parts nearer the source of the Circulation slough sooner than Parts at a Distance.

The suppuration of a dead Tendon is very tedious, and it even putrefies before it sloughs off.

Bones are more tedious in throwing off the dead parts than other Parts, as the earthy matter must be absorbed first and new granulations grow over the dead Bone.

Of Mortification

is sometime before its thrown off - in Bone the Calcareous Earth must be first absorbed up this makes it tedious.

Of the appearance in soft Parts when Sloughing.

The part becomes black and if exposed to the air becomes hard - there is a groove on the edges of the living Parts and this grows deeper & deeper till at last the dead parts separate from the living all the processes regularly succeed each other, 1st Inflammation 2^d Separation 3^d Granulations take place before separation is finished - the separation generally takes place from the edges but sometimes takes place from the middle - cutting down to the separation and to the granulations

Practical Observat^{ns} on Mortificat^{ns}

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Surgeons have treated all these in the same way; its a common Practice take a Mortified Limb of as soon as the Mortification stops without waiting for exfoliation or Sloughing and in amputating they always cut in the living Parts, the cutting into living parts always brings on violent Inflammation, Nature is now so weak that the mortification is reproduced and kills the Patient, Nature is not able to support this Inflammation, he says we should not wound a mortified Leg when the mortification is stasid - we never have symptomatic Fever in Case of Sloughing he has seen Operations continued in such a manner on mortification so as to kill. Wherever we have sloughing we seldom have any bad Constitutional Symptoms.

Another Reason for Cutting off Sloughing is for it to heal quick, but this is the same as cutting into the living Part, or cutting a large living Part off.

Exfoliation

The Bone must be dead before it can Exfoliate, some say that a Fungus forms betwixt a sound and an unsound Part.

Bone is composed a living part of an animal and of an earthy substance.

The part w^{ch} is exfoliating of Bone has a much greater number of Vessels than ever was in before exfoliation, this is known by injections. the calcareous Earth must be partly and at last wholly taken up by Absorption, yet the Graft or Animal part keeps it to the sound part for some time, as soon as this is done a fungus arises from the sound Part and fills up the wasted parts & this serves for a basis for the fresh Bone.

Granulations arise from the sides of the Bone and the whole is thrown off.

Exfoliation

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The 1st appearance of separation is a groove which is about the extent of a shilling & the groove gets deeper & deeper.

The Fungus in the dura matters will prevent the specific granulations after trepanning.

The living Bone throws off the dead Bone & afterwards the Bony granulations often increase beyond the surface of the Bone.

Of the absorption of living Bone.

In Childrens Teeth the Gooth dies, it gives a stimulus the stimulus produces action in the absorbents to take it up.

For Transplanting Teeth, the operation may take 3 different ways like the ingrafting of a Tree, the Gooth shall become part of the Body 2^d the Gooth shall act as an extraneous body and produce gum boils 3^d it shall remain there as the Gums shall take up the whole Gooth and destroy it then the living Body shall eat up the dead Body

Observations on the Atmosphere.

The Inhabitants of this globe are surrounded by Atmosphere or air, but their diversities of air dissimilar to one another.

Q Air seems capable of affecting 3 different ways. 1st Air may be impure & 2^d Air may make the Body act according to its influence, & 3^d it may be Poisonous.

Q In low damp Countries we have Agues - In large Hospitals, Jails, Camps &c we have putrid air and Swarms in consequence of it, a noxious Atmosphere produces most effects at 1st than afterwards than afterwards a Person going into a Fenny Country will be more affected at 1st than afterwards.

Of Schrophula.

120

This is a disease so well marked that it seldom or never can be taken for another. I therefore, Class it with the specific Diseases, there appears to be something venereal, in the Disease, it passes from one part of the Body to another, between, the interstices of the Muscles with ease as there is but little Inflammation & produces Diseases of the Absorbent Lymphatic Glands. - schrophula cannot be inoculated M.^{rs} says.

Predisposing Causes.

of Climate. - Cold with Constant Dampness produces it, it is common in this Latitude, w^{ch} is between 40 & 50 Degrees and it is common in the same Latitude in Germany - many Places in the same County are more liable to it than others from the above Causes, all Monks in this Country die of this Disease, i.e. of indurated Lymphatic Glands.

Of Schrophula.

2^d predisposing Cause is Complexion. fair Hair and white Skin and thick Lips are more subject to many Diseases than Black Hair'd People.

Every part of the Body has its specific Disease the Schrophula affects the Lymphatic Glands particularly the superficial ones viz. the Neck joints and Ligaments are subject to the Disease particularly the Joints of the Feet and Hands perhaps from the Number of Bones & Ligaments.

The Schrophula often attacks the Joints of the Knee, Elbow & Shoulder and frequently in the Loins forms lumbar Abscess. - the Skin holds out long, all ages are in some degree subject to this Comp^t but Children from Birth to 15 years old are most subject

Of Schrofula

121

then it gradually disappears betwixt 40 and 50 years
it has been supposed to be hereditary but Mr Hunter does not
think so as no Complaint of this kind would be backed by
Climate. If a Family have fair delicate Children they
will perhaps have this Disease in this Climate but
not in a warm Climate.

Mr Hunter thinks no Disease hereditary, but there
may be a susceptibility of acquiring them. fair complexioned People
are more irritable in Mind and Body than People of a different
Colours.

White swellings, Lumber Abscess, Consumption^{one}
are of this Nature. Consumptions are more frequent in
this Country than in particular Places and fair People more
subject to them than other Colours many Consumption^{one} come on.

Schrofula.

from Schrofula. when people catch cold & complain of their
being come down they are Schrofulous Habits.

Many who have died of Consumptions upon
opening the Body have been found Schrofulous Internally.

Most swellings of the Lymphatic Glands are
Schrofulous & circumscribed swellings in the Cuticular Mem-
brane - sometimes we have a loose bag of Matter under the
Skin without any Inflammation and they will remain so
for months.

In Habits compleatly schrofulous its appearance
will be Matter, and move in the interstices of the Parts and with

adhesive Inflammatⁿ.

Schrophulous Foot Hand or Finger but has not the Disposition to restore itself till a Cure is completed, if it fixes in a large Joint as in the Knee, its called white swelling and Inflammatⁿ appears to be more here than in other Places.

In the Lungs we meet with several circumscribed Tumours,

The Indolence attending Schrophula and the want of a Common Degree of Inflammation makes its progress very slow. but sometimes the Lymphatic Glands swell considerably in one Night here there is more inflammation than common. when Schrophula attacks Joints, the Joint becomes weak and neither the Friends nor the Surgeon know what is the Cause till swelling appears, the Leg will appear larger,

Schrofula.

than the other with Lamenex when perhaps the
swelling will appear in the foot at last.

Schrophula of Suppuration in *Schrophulous Habits* ^{this was taken by A.C.} 125

In true *Schrophula* the Parts loose life but not totally
the suppuration is uncomplete we have only Cruddy Matter
instead of good Matter. In *Schrophula* we often the Glands
desolve in the Cruddy Matter. This Discharge is a Mixture
of Coagulable Lymph and Matter - where this Disease
affects the Bones the progress is very slow and the
Matter is generally Cruddy. if part of the Bone becomes dead
it is much slower in exfoliation than when it happens
from other Causes this arises from the sedative Quality of
Schrophulous Matter.

The Rickets seem to have some mixture
of *Schrophula* in it for in this the Bones enlarge as
in *Schrophula*.

Cure of Schrophula.

The Cure consists in attacking the Schrophulous Constitution with medicines and by the use of Surgery extirpating the Schrophulous parts. if we had a specific for this Disease as we have for the Venereal Disease, it would be a great happiness, but we have no Medicine which has much Power over the Constitution - nor can they alter the Climate.

The predisposing Causes are 1st the Climate 2^d living, fair Complexion, no medicines can remedy this, if we ~~could~~ alter the Constitution of the Climate we should have a Cure, Bark will cure an Ague in Berkshire but won't in Lincolnshire and Kent, few can change the Climate but those that can should do it.

When Schrophula attacks duplicated parts that are

Cure of Schrophula.

124

necessary for Life we can't Cure.

Sea Bathing is the best Bark Fopul Alkali

Hemlock. Hemlock he has seen of use, equal war on the
and a Vegetable Diet.

Sea bathing sometimes overcomes Climate.

Local Applications

From the indolent sedative power of the Disease
we should think of stimulating, but the Balsamic and
Metallic Salts do harm. I have tryed many things but do
not find that any thing do good but sea bathing and the Juice
of Hemlock Poultices made with the Juice of Hemlock
produce a Disposition for ulceration and when we come to a sound
basis granulation arise and were this has faild Poultices
made of salt Water and being only simply exposed or washed

with sea Water does great service. - but ~~stimulating~~ Stimu-
lating medicines often do harm and increase the Disease.

Surgical Treatment

In all Common Abscess laying them fully
open does ~~good~~ and promotes a Cure in Cancer & Schroph.
opening does harm and increases the Disease.

Tho' we have no Cure yet this Disease never
kills without it attacks some Vital Part.

The Schrophula is capable of killing by
producing Alterations in the Parts viz when it attacks the
Lungs, the Injury done Respiration kills when it attacks
the Mesenterick Glands the want of nourishment kills.

Most Lunatics Abscess arise from Schrophula.

Boys and Girls are most subject to it but the often
get rid of it at Puberty. when it takes place after puberty its very
obstinate.

Surgical Treatment

125

Some Schrophular that are slight appear in Winter and disappear in Summer.

The Dog at Such and Hangd mans hand are noted for Curing.

Mr Hunter says that in length of time they get well themselves, he does nothing and the Patient does best by only keeping the Part Clean. they get well by doing nothing as soon as if they took ever so many Medicines.

Let the parts burst of themselves, don't dress with Stimulents for in this disease they will not produce Granulation leave all to Nature you may apply a Poultice but do nothing else.

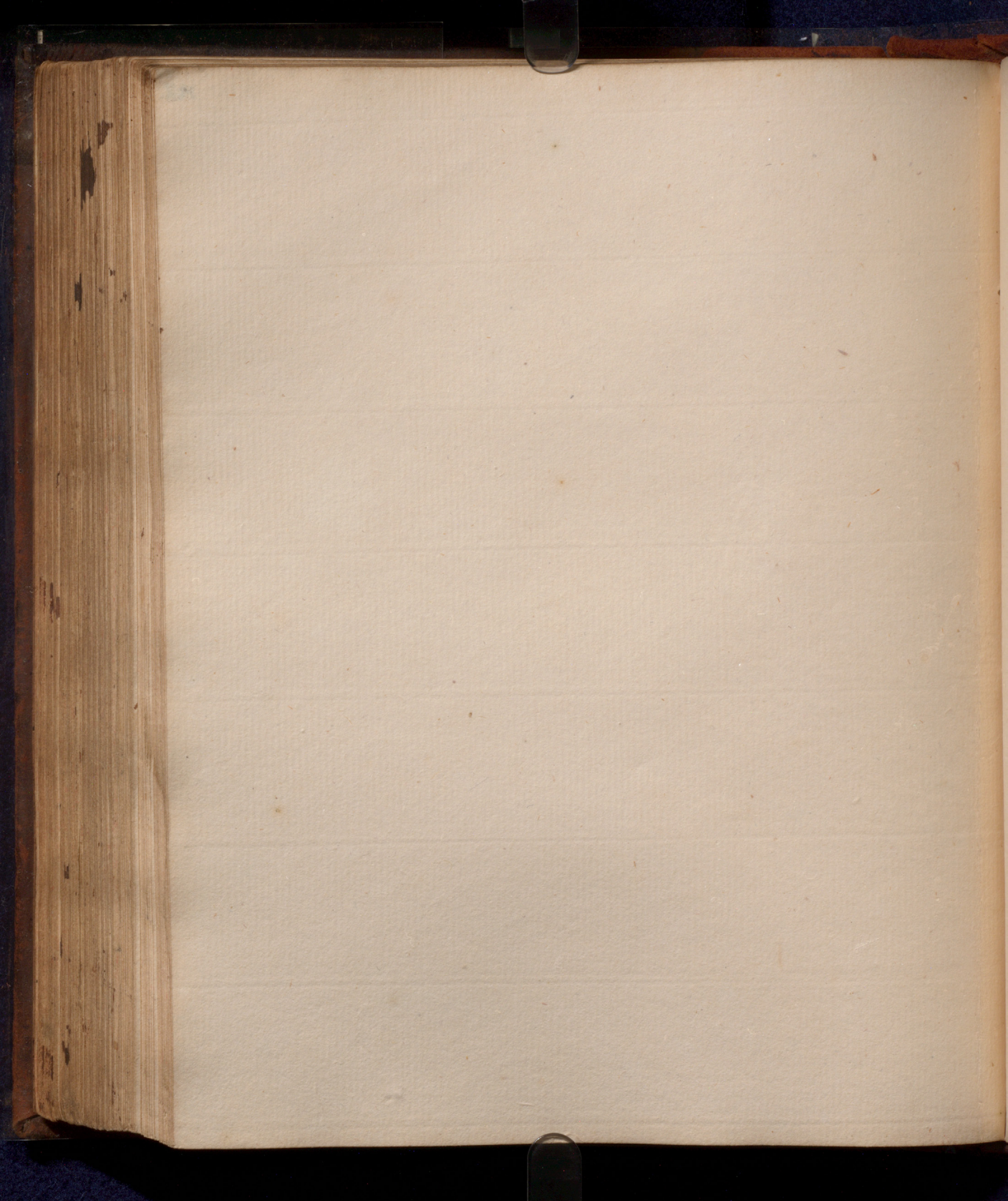
Poisons

Whatever makes worse than at the Time of Taking
it may be called poisonous, but what w^old be poisonous
in a healthy state may be good in a diseased State and
many things w^h are called poisons are good Medicines
given in a proper Dose so that in time we may have
lost the Idea of Poisons.

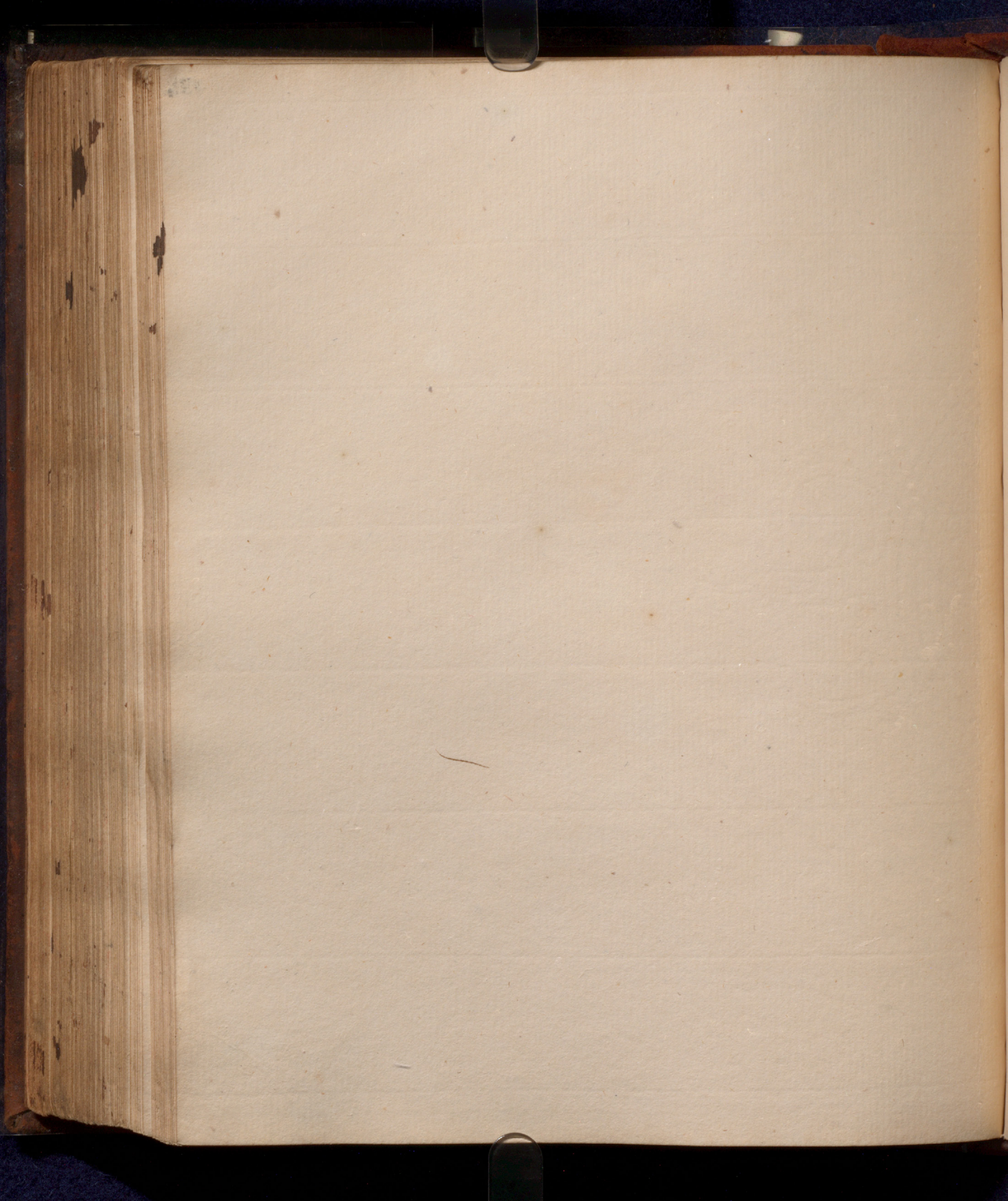
Drinking cold Water when hot produces
a Crasis its action is similar to poisons.

Small Pox is a Poison but when it has once
produced its effect it will never act again in the same Person.

Small Pox is a Poison &c. is.



A6



Gracious and he did - I in spirit
carry if persons who meet with
mercy of this kind have for
been subject to any heavenly wisdom
they seldom recover

Superstition Verbs sometimes

has been at the very

divisions of the verbs generally
division death by composing the

formal narrators

some gross errors in old people from
a loss of early matter and they become

lost like those in Turkish children

are taken in the morning than at

night from the copy of the verbs

the verbs are mostly and many are

and perhaps at the same you may see

a bump on one of the verbs and all

the parts below that become Parathick

at the end by having the body

thought in a chain connected for that

purpose of other things at your disposal

will form near the spine and disengage

parathick. Impurities will cease but in

general these disorders in length of

time prove mortal, sometimes they

come from having great weights in

limbs grow in weakness of a Colonel

who for a longer was a coach upon his

back, by which means he lost his life

for the parts below the Dissection became

Where the time is very crooked like is
to be done but it is easily prevented at
from growing more by cold bathing for
7. 8. 9 or 10 hours together and stopping
by the head in some machine confined
for that purpose, which should be done
with some 1. 2 months to 3 months often
and their blood enlarged to cure it.
and prevent disease, as good as
but it is requisite as well as in most
other diseases, the best way of curing
it is bathing in cold spring water as
much as possible, all the year round
one a day one or two as soon as possible
and out again, before the water is the
better and Dr. Sydenham says all ten
will be compensated with their drinking
or sucking as necessary or chewing
tongue or any other, Dr. Sydenham says by
the disease one may have Dr. Sydenham
mentions of a child which had its
mother to love that the nurse was not
gladly that they might be turned almost
round the limb and at the same time
there was an eruption on its skin
but the child got quite well by the
application of fresh air and cold bathing
and if these things had not been used in
all probability the child would have been
ruined.

The spine in healthy well made
 persons is straight, but sometimes from
 disease it becomes crooked, in the bones
 of a vertebra, or of many vertebrae
 and are drawn out of their former
 shape by the parts above pressing
 upon them, every one is that when
 born and if it was possible to bring up
 children as they lie in bed none of
 them would be crooked, but their hinder
 bones grow crooked from vicious habits
 in the manner above described, sometimes
 matter is squeezed out and the vertebrae become
 ankylosed and if a person by habit holds
 down his back the consequence may be
 that some vertebrae will grow together
 either on another perhaps two or three
 without in the same time for its being
 weak on one side the body naturally bends
 its body on the other to balance the weight
 and so make the spine of the spine of the
 the whole spine will be so and when the
 an invagination of the spine the bones of the
 vertebrae will be thinner in the invagination
 than any other part. In the disease makes
 the spine that are disposed to make have
 the spine not till 60 or 70 years of age

The Spine has a rotatory motion in some
degree upon the Atlas and has
like rotatory motion
The Osification begins in the parts of the
vertebrae - In infants partly bony and
partly cartilaginous
The Spine depends and overcomes
the spinal marrow, its of great use
in supporting the body and allowing
it a considerable motion in the whole
The nerves in the Torus become Corda
Vaginae

fifteen every five vertebrae the nerves an
give out in pairs
The use of so many bones is for strength
and some motion and
The Spine being towards first and
then backwards to support the
At the roots of the transverse processes
there is every five vertebrae you may see
the Os sacral ligament which serves
to draw the Spine backwards and the
Body erect which of course gives the
nerves as be upon our backs the Spine is
the upright but
In sitting and standing the Pelvis
is bent a little in case of muscular motion

Of the connection of the vertebrae
there is besides the interosseous and
an elastic ligament and a sheath
on the outside of all. In the bones
of the spinal marrow is a strong sheath
covering the marrow, the vertebrae
their bodies do not touch one another
the spaces being filled with an interverte-
bral substance which some call gristle
and others ligamentum, that looks like
hard jelly many or call it gristle and
I say this is between every two
vertebrae or mostly and a disjunctura
between vertebrae denoting each
other like the letter X and where the
vertebrae join one upon another the
intervertebral substance is joining
the motions of the spine consisting of
the bones (viz) vertebrae, forwards
to one side and to the other and a rotation
one in some degree, but the motion between
them two is very inconsiderable and
very free is not the motion of
with respect to the whole, the narrowness of
the vertebrae gives them a greater motion
than the dorsal and lumbar, the weight
of them all acts one upon another
and when you bend forwards they touch
them and do not touch in flexion
and extension but in the lateral motions

all sort of greater motion.

of the Spine is larger and stronger in the
of them is the largest of all the Vertebrae
that they are the broadest, and the last
of the Spine differ from the rest in the
one vertebra to the other, and these Vertebrae
as determined in the same manner as
the Cervicist of all is connected to the
and the Cervicist embraces the other
and larger
the oblique or articulating process.

The passage for the Spinal Nerves
is larger here than in the Neck.
Of the 5 Lumbar Vertebrae

Spinal Processes a three edged sword
long and narrow and oblique in shape
descending articulating & joining on
processes, both the ascending and
descending with long strong transverse
division of these Vertebrae into four and
here is smaller than in the Neck, the
but one joint with the Spinal Nerves
the two Cervicist Vertebrae which have
the two Cervicist Vertebrae which have
of the Spine, one below and one above for
thrust from the rest by the joints
Of the Sacral Vertebrae they are

[illegible]

between the flat bones and the long bones
the spinal marrow passes in this chain.
so that the general use of the spine is to be
strong support for the firm end of loose
the vertebrae moving one upon another
and to form a protection for the spinal
marrow in the manner about described. and
when using a rod or walking stick for support
the pressure may be conveyed to the
the spinal marrow and the
inferior oblique articulating process
a part of transverse process for others
ment of muscles

12. Certificate of the Bank called Dorcas
7 of the Bank called Governor
5 of the Bank called Turnpike
and 3 of the Governor the smallest of all,
the paper is inserted into the cover, the paper
not torn and the Governor's name is written
short and clear (two counts) for the
Governor's name of the Governor's name
the Governor is called after the name
from a long line, divided into two parts (one
Governor's name, and through the four names
Governor's name, and through the four names

Orthology
Bones support and direct the motion of
the body, for it is evident that the muscles
have not the power, are without rest,
further mentions of a Roman at least
whose bones have lost all their earth
they can't stand, not for the weight
into any position, but remain on
a bed as flat as an Oyater.
Of the division of the bones, some are
extremities, and first of the bones which
is the Os of the hand beginning at the
base and ending near the fingers, composed
of vertebrae resembling the bones of
pyramidal form and hollow, they are composed
the whole to an oval, and first of the
of the Os of the hand, which
is the Os of the hand, which
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Notice with number one different in
different ~~Geologies~~ (the ~~stratum~~
at the age of thirty is generally three
thousand

Of Irregular Horses as to
Simulations and the Verbal, Simulation
is of use in different parts of the Dominion
of Simulations in every Verbal, one in the
middle and one at each end which show
forwards and another tell they meet in
the Center and form Horse, In Simulations
he sees no appearance of Carriage
in the upper part of the Circle nor in the
Self. Therefore he uses force with the Verbal
that they are formed from a Membrane
but Albinus says they are first Quality

You may content all the earthy matter
of a Horse by steeping it in oil, and
the remaining part will be quite flung
nothing remaining but deposit and a
lygely.

Proble following observation is well
formed, Horse is made up of a distinct
substance and the quality versus at
Hood for the horse to shoot in.
In the Simulations and that there is good difference
of Simulations.
Horse do not signify always all the same
generally others later, those of the Organ, body
to exercise versus

Horse are of different substance from a
lygely, the one having earth, and the
others none

3. Ossifications in tubular bones, and
 at the center and choicé quaque part
 unite the Ossification and become unite
 by a continuity of bony matter and
 therefore there is one Ossifica-
 tion in the middle and one at each extremity
 but in the diaphysis there is first, the cavity
 of a cylindrical bone increases from being
 as big as to admit a probe to be as large
 as to admit one thumb, which grows
 that the internal part divides the
 external bony
 the bones of the carpus, metacarpus
 & tarsus are cylindrical, but at their
 upper ends there are no Ossifications
 at first there is but one Ossification
 in any bone.
 We do not understand why nature has
 made different Ossifications.
 The bones of the hand, the radius
 and ulna are of growth like other
 bones, they grow gradually, and a knot
 is first seen to enlarge and form a tubu-
 lous Ossification.

Pickin' up some more of the
 first becoming & ready, that they begin
 to shoot first in the middle and shoot
 both sides partly by the beginning out of
 the sides and partly by the addition of new
 members

in some some the distance of them and
 the first in the middle of them and
 the first at the end and new days
 in some some the distance of them and
 the first in the middle of them and
 the first at the end and new days

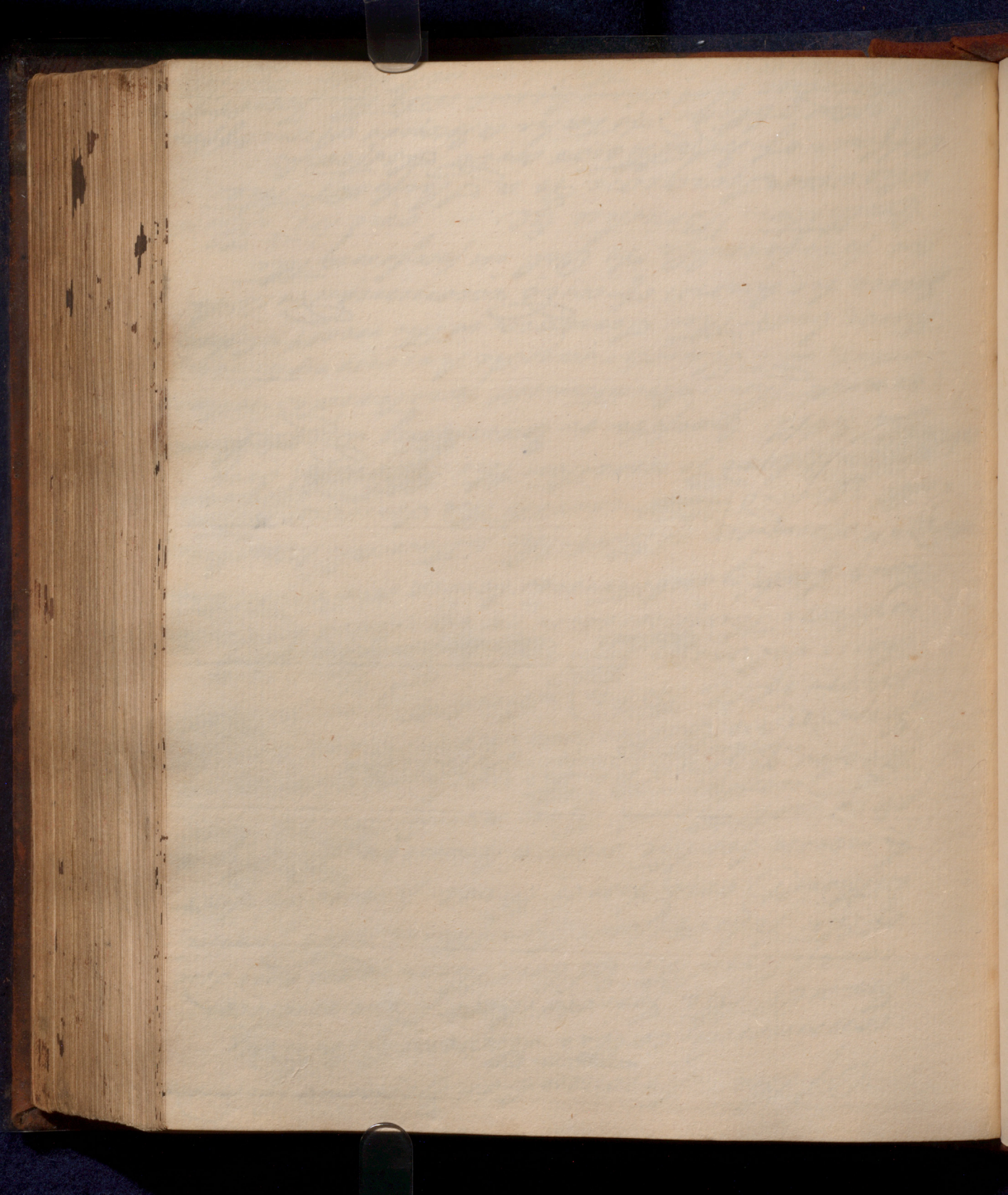
the first appearance in the some of the
 the first appearance in the some of the
 the first appearance in the some of the

If a horse has been shod for some
 time it cannot be shod because the
 sensitive skin is so sore that it
 will not stand the iron. The
 cure is to keep the foot dry
 and use antiseptics to the foot by
 growing to the surface of the hoof
 and leaving no cavity to receive the head
 of the shoe

With willing attention in different
circumstances & sometimes attended
with pain & swelling, and by Division
or suppurating of the glands
often effects
in some cases of a fatal kind
the patient may be cured
by the use of the body
to great Collection of Urine
which often he spends all
other parts of the body

Some theorists suppose that the
monera in the forest became jointed
to fish, and others think of them, one
the cause of disease in joints but
Dr. Hunter says that disease fluid
in these cases is matter and he
thinks their theory is all founded on
two dogmata
Which first deny in joints coherences
no more than the glue communicating
from ligaments. I believe fluid carries
a little discharging in certain places
which is matter is on the inside
of the bone

Of the Innovator or Innovations
commonly called Slavery &c.
In all the points that have motion
existing the others, there is one
of the joint party within and party
without) one, two or three kinds of dot
known by the above names. In all
does not think they are known, but
describing the various places in
points, as well as the members do not
parts of the body, which they consider
from all parts of the body in
motion, but in various parts of the
their partly substances being destroyed, though
the in motion so that the various members
all round the world the various
the good to motion the body, but
abandon the body or leaving the body
- that motionist, to be made to have
year, I in winter pay in more motion of
their, but the body is the most of the
since he knows of and is in motion, it is
as possible to be in passing the
Eastern, Southern &c. - and in the
who is in motion to a ship at the
affair of motion and motion
and others to take a motion of the
the motion, that it is not with the motion
known as a motion, that it is not with the motion



when you make & extension leave the
arm rather loose and work at a little
about, by which means you may
perhaps still it in another than by
strength, two instances of this sort
Dr. Hunter mentions, the one has been
to a gentleman in the City who had
a great deal of forced use & recourse
shoulder but without success. at last
M^r Gire who was then a young Surgeon
was sent for who intended to reduce it
by drawing do Dr. Hunter's method with
his steel, but while was performing the
arm about to find the exact situation
of the head of the bone in it & it did
but when a fracture is complicated
more difficult & another man in
St. Thomas's Hospital who had long
been out, but could not get it reduced
by force, however it was in one night
as the man moved his arm about
the bone all with ~~some~~ success
after a long time in getting there

For in cutting the London was forerunner
to him or not a violent inflammation
there he gives, but after a long sleep
he awakes with the loss only of the worst
the danger
3^d descent J. H. mentions of a
Jurgon who brought on a violent
fever by pushing his finger in taking
a towel out of a basin of water
disrupted in general in which case
sometimes from I leave the Capoula
dignity is so relaxed as to bring on
luxation, but the hasp can very rare

Of Luxations

J. H. mentions that many more
times in a number the Capoula digam
ment is supposed to force and with
luxation of the humerus of the
dignity of the large joint can
dignity is due to the force instead of
easily violence in the common way
with one hand raise the arm up high
and put your other hand into the axilla
to push the head of the bone into the socket
then bring the arm down again by which
in all probability you will reduce it, but
if from a violent luxation of the humerus
you find a difficulty in reducing it, then

[illegible]

[illegible]

Ligaments come at different in substance, that
to bones and have fine follicles and fibres
for the sake of motion, which sort of
outflow dig. do have not, and tendons are
covered with a fine cellular Membrane
but they are both of the same sort of
material, viz. fibrous, & vascular,
all that difference, abundance of the
same kind of substance, viz. connective
tissue, being thus, and others thin - the
great difference, viz. in the use of the
dig. and it is dig. that give
from bone to bone or from growth to
growth or in short any thing that binds
these parts together is ligamentary
Ligaments of the joints are indurated
in nature, and do help to keep the bones
together, by the pressure of the atmosphere
but in the same there is an elasticity
fibrous dig. do not further, do not muscular
between some, do further, do not muscular
in the dig., the vessels between the roots
of the spinal process.
In every joint there is a ligament or capsular
ligament, or bag, that covers the joints
and keeps the bones in the position
and need in the position.

These Articulating Cartilages have
four parts with interstices, the first
other part of the body, but not soft
parts & immovable & not movable by
a certain degree of previous animation
of the body of all the parts in the joint
except the Cartilages of the ribs which
are joined to going farther
the use of the 3^d class of Ligaments is to
give them power & elasticity as is evident
in closing the nose
Ligaments as muscles as one has and
the other I suspect they have
in number
Ligaments do not begin in growth but
often develop from communication
with other parts and will even be
connected in their whole length
part of the growth in the growth
from the body

[illegible]

These Substitutions of the Editors are
received by turning them into a table
having the fore given with one hand
and joining against the reversing body
with the other, or by working them a little
about.

Excitation or Exhortation is when a person
is entirely out of the order

Amplification or still sort of the words

Amplification and unamplification

Contrast when the point is quite that
and never can be made effective by art.
Incompleteness when the point is not quite
that, but some of the point is not quite
and the point itself may be carried by

Excitation in a music and it is made unamplification
of the Contrasts

All the houses are left with a quality of Contrasts

Quality is the most to some date upon

A Contrasts when you set in it in

any direction of Contrasts or Contrasts

set in Contrasts and Contrasts

Also those that cover the Contrasts

Amplification Contrasts, the other is not
and Contrasts of the Contrasts Contrasts
also have their Contrasts Contrasts

Thus Galen's account of the Articulations
and Bindings of Joints

The Joints are to be explained in the Order
= Joints upon Mechanical Principles

These advantages of a Joint (viz) Freedom
of motion and strength (disadvantages) the
considering) and therefore are in a great
measure incompensable with each other
for stronger the Joint is it admits of less motion

as the Strong Joint, and the weaker, the same
if we consider the Disadvantages that bind
them together, for strength of ligaments
checked the motion of the Joint, this I say
is particularly in all it explains the Joints
in the same, strictly, and every one
having a little motion, there is a different
quantity upon the whole, forming a great motion
subject to the action of the motions

inferred by nature, could the Arm be
stretched to its length when the muscles are
not in action

The common Diseases of Joints are
the Rheumatism, & the Gout
the Rheumatism, when a Bone is not entirely
out of its socket, but partly within, and
or the Bone is in a singular position
and not subject to the action

3. *Gymnophagus* *inversus* on a person
another like a King on the 2. *Elon*
it admits of flexion & extension, but
only forwards and backwards, it is
stronger than *Enallagma* & *Orthocentrus*
The *innocentia* *jointing* *innocentia*
and likewise divided in three parts
5. *Sutura*
2. *Stomach*
3. *Gonophorus*

The Doctrine of the Bonds

The Archæologists used their Words in different meanings, which has given confusion to their former, but appears some of the Old Greek words are retained and are become technical terms being more expressive and applied to particular parts of the monument or building - such parts that I found no things to be considered in regard to the Architecton. & the front of itself, than the opening of it taken called that forming where some more one is seen another Architecton and thro' the church into three parts (viz) Prothrosis or Hall of Court in German Prothrosis or Organ containing definite things

[illegible]

It seems one to be preserved for a
selection of any thing else, they should
not be from any young or on old subject.
but about middle age of 25 or 30 years
we advance in years the early matter
decreases.
The compound part of a healthy person
is something a kind of a mixture of
the compound part of a person
with the compound part of a person

All growing animals that feed upon
Madder have their bones hard, and when
is remarkable that no other part of
the body is tinged with it, nevertheless
nor disfigurement, and if you cut the
leg a leg with Madder, and the other
leg with something else, so we find the
leg that you will plainly see the growth
of the bone it is upon madder the, and
the other which every other bone
the bone seems to be excited by feeding.
It is visible in the bone like a part, without
bringing any part but bone, but it will
not colour the bones of an animal
that is got to its full growth
I imagine to give Madder's method
let the bones be in a moist state only

When the external surface of Bone
is exposed with one divide into two
parts. It is the first of the
substance and on continuation of Bone
to the substance of the body as we advance
in years. - The surface of the bone
is for involution and condensation
of the cartilage of Bone will be of the
more cartilaginous which come to the
particular Osteology. Particular
for the beginning of the formation of the
A large number of deep cavity and a middle
which the the bone logic and a middle
call these more subject to the cavity
of the bone. - The bone is examined in
different from a Muscle in the composition
by their being more bone in it.
A Bone grows first a Volatile Spirit
the substance, then an oily substance
after, after many are existing in the
matter, after many are existing in the
The Cartilage of Bone is made of
is what I have said is made of
The quantity of Bone in Bone is as the
to the
There is a belly to be extracted from Bone
the cartilage part of a Bone is to be extracted by steps
in an Acid.

parts that are most exposed to the
newer Air: Given more than other
parts, as the bones of the foot, the ribs,

frequently come out in scabs

And hence we see in cold them in hot

Countries, no warmth is of service in the

See - In fact they seldom do any

thing for it but drink the London Diet

Drink or a Drench of Oxyphorick

And in this Country great care should

be taken to keep the Patients warm in

their rooms with stoves or fires

from when they are taking Medicines

which the Physicians in London

great quantities that it may be the

most inward parts, if given in small

quantities at a time it will go off by the

Stomach, the Patient does not catch cold

while taking it. Warmth continues

greatly to hide the Poison and other

Subor or how appears it useful to

help it away with. Soothe ye with

Warming. A married Person has power

to force they often say in the words of a Play

or shan't with they has perhaps 2, 3 or

6 years before they married but I think

in quite of a different opinion and says that

he is so sure with the husband or the wife

enough it is a fortnight before it broke out

and for reasons not known to him self

will come over the fact

often to put your Patient under a new
course, and in due season find in all
probabilities, the Venereal Virus and the
Gonorrhea will be well according to Dr. Sydenham's
doctrine in the year 1763 & 1764. but
now Sydenham, that it is 6 & 8 the course
does render effect to the Venereal
Virus, as the Venereal Virus is carried
the blood by the Absorbing Vessels, and
daily diminishes on the Venereal course
lessens it, and other times it falls on
the surface of the body and breaks out
in Scabs, or it may fall on the Venereal
and become a Rodentia, as Dr. Sydenham
of the Venereal Virus, not of the Venereal
for the cure of Rodentia, Dr. Sydenham
you contrast, do his former doctrine, do say
soon by infection from one and the other
invariably do not necessarily during
which time the patient should not be
off of Venereal Venereal without exhausting
or hurting the Body. — The surface of the
some that are most truly covered are
most subject to Venereal Rodentia, as the
Venereal, then Bone, & Cartilage
and Sydenham never heard of a Venereal
Rodentia under the muscles of the back of the
leg, or any other part that is well covered
with Muscles, but only for as we cannot
possibly get into the Venereal

[illegible]

of part of a horse is quite clear, it
never alters its form but remains
as the liver is altered its form or figure
like the liver of a fish and not that of the
same matter is absorbed by the decaying
from making it soft, which is easily
perceived that generation in bones does
come as in other parts

The Perfection is further above a
-on or dignified good in a house, and
Pensions & dignities diffuse them
relieve over the House from their importation
and make the external Perfection
which I consider says to the only
Perfection he knows of and I know
- from, is that one last heart another
ideal of their perfection or dignification
with the does not honor of any internal
All parts of the Perfection will be
connected to House by the (as the
Iura Mater which to the same which
are passing through to the House
and which is the Perfection
Nero has through the Perfection
to go to the House, but whether they can
their value up or not I do not
can't tell, but he believes not.
The Perfection seems to prevent the
House being in through in their way to
the House. - All these services will be
to keep the House and especially to closely
connected to one another in young Creation
It gives a former Affirmation to Perfection
and I believe the Perfection is not
possible.

I in further say that he believes that
to only a more delicate texture Membrane
lining the interior of bones, as
the cellular Membrane does all other
parts of our bodies, and is continuous
with the bones, but in other parts of
the body, to be composed of other matter
The particles of bones are given forth
and the bones of all people being made
subject to break down young, what for
want of nourishment, but from the outside
part of bones nothing, and if a bone
is brittle from age, I distinguish in the
year 1764 we say that the bones were
generally of not strength, or found bones
just now since 1768 having
if a bone has continued above three
the bone under it may perhaps be
dissolved by the general process going
thru, but bones, but does not think
that other parts will be found as wide
Dissolved of the Periostrum
Of the Periostrum
that the Periostrum is the Membrane that
covers all the bones externally, except
the enamel of the teeth and the
Cartilage, ligament or sinuous cords
Some there is no Periostrum

There are a number of pores in the
but not including any small as some
Anatomists have said, and the transpa-
-tion after death only shows that the
pores are not so compact as to prevent
light from passing through them
in our bodies, and are only pores
of the skin.
All the spongy interior parts of all living
heat animals, which in human bodies
is green and soft, of the same consistence
as felt in other parts of the body, being
sent from a covering between skin and
flesh, increases from our youth, just
before death, and when one is near the
other parts likewise are in the same
movable covering, drawn through, through
all its substance, and the hardness of the
go into pores, besides the small ones,
arteries and veins from the last of them
substance, which on the outside
the outward vessels branch into
the interior part being so vascular, that
it is able to disagree, with the various
become inflamed and disordered, and
cause a cancer of the internal parts, of
which is one of the most violent and
out in the middle or compact part of

Some are the nearest part of our
body and nature, and nature has
formed bones more hidious than
ours for fighting in flying.
The Cylindrical bones are of course
at their ends and have cells like the
cellular membrane communicating
with one another & carrying food & canals
of the arteries & veins more or less
within a hot work of bony fibres, and
the middle cavity, however constant, and
without the bony diameter, just in the middle
in every bone in the body is a longitudinal
canal, the shaft, bone of the long bones
consists of a middle part, the middle
part of the shaft, bone an exceeding
All parts of a bone that join in the inter-
stices of the larger bones are well more
part as the two ends that are of long bones
and seems nearly as perfect as any joint
of the body, and these bones are void of the
like those of the bones of the spine are
joy. The compact part of bones are
discovered to be much about 3/4 of the
to the marrow, not, nor does he know whether
they go to the marrow or not. Some a few
There is in every cylindrical bone a few
canal for the passage of a few small arteries
from the outside to the middle, and there
on such a condition, and there

The Heart and Pericardium together make the
most material part of an animal
The muscles in general have been
described, and the bones which
shall be next taken notice of.
The human skeleton is remarkable
for that the two former are fibrous
& vascular, but the latter is not

Of the Bones

A Bone in an animal body is the
hardest of any part of our machine
being vascular & fibrous containing
a good deal of earthy matter.

The direction of the fibres different in
different bones, as in the skull variable
ones, the fibres being then as we observe in
bones, that is the longest & thickest fibres
for there are something fibres running

The fibres are observed to be even in young
bones, and the greatest number of bones
there is in length & breadth.
Bones is a number of hard & bony
the hard substance of bones, the proper
material part of bones for this, be
the thickness of bones makes them stronger
the thickness of bones being longer & thicker

At the same time, however, so composed the
Deaf and dumb will lose the action
with the composition is removed.

The influence of Arterial blood is necessary
for the contraction of Muscles, and when
they are reversed, the Arterial cannot do as
the heat of the blood that carries the
Arterial and into the heart in action
and this action J. Hunter believes to be
voluntary and obedient to the will of the

Muscular motion has never been explained
as satisfactory, nor does J. Hunter
believe it will, for a single fibre has
never been seen by any microscopist
that in the same fibre holds
if a person at the same time holds
his breath, the nervous influence, indicating
into all parts with great rapidity
in the course of Muscular contraction. In
Hunter believes with Haller to be a function
power a muscle has of contracting it self
by the nervous influence passing into the
cells of the fibres, such as the position
power or heat from heat of action, but
that this peculiar power is confined to
certain

[illegible]

Center of motion by which means
they lose a great deal of force on our
surface, but their advantage is con-
siderable for the convenience of
being moved near the center of motion
gives us a greater quickness
-the force is by the advantage of a
lever saving any weight
there is in the wheel just after death a
certain force of contraction which is
to overcome the weight of the vibration of
the limbs, so that you may lose a foot or
after death in what I think you lose
which there is not in any other position
the wheel will move correct again,
and if more quickly they generally fall
which is often done by the wheel
dead bodies and ~~move~~ ^{move} ~~over~~ ^{over} ~~from~~
forward into ~~the~~ ^{the} ~~same~~ ^{same} ~~or~~ ^{or} ~~back~~
forward position.

Muscular Action or contraction is the shortening or endeavoring to shorten the muscular part (not the tendon) and this effect seems according to the direct ion of the muscle as one throwing the tendon round a pulley as the short least end of the muscle is pulled out and what part of the muscle is in action as the tendon or whether it acts alone or co-operates

Conjunctive Action if you wish to give joint out and with a chalk make a circle you say that means move great part of the muscle of the body.

The force of Muscular motion.

all muscles that move bones may be considered as Agents — of the people whose muscles are of the same group and the one fact, the other short quane the shortest group is small & probable to be the strongest by his bones & being larger.

Absolute and Relative force Absolute or extreme force is when all the muscles act together and is greater than relative force, sitting with joints muscles and they act with great disadvantage and they are in the bones sitting in a direct ing direction and muscle sitting near the

[illegible]

It will do not speak of origin and
 invention of muscles for fear of giving
 wrong ideas to the reader, therefore he
 only speaks of their attachment to
 bony parts divided into different numbers
 by different anatomists
 naming of single muscles mostly given
 by modern anatomists, but commonly
 taken from the old Greek harmonia & *logos*
 meaning signifying a distinction or
 setting apart from remembering the Greek
 letter alpha

Divides are also liable to be broke them
 for use of bones. Bones and not cartilage
 :tion of muscular fibres
 :tion of muscular fibres to divide
 their motion & to give them a certain

Several muscles of the oblong head where
the fibres are rotate

General muscles are half form
like the one of quail with the feathers
the back of head with upon the shoulder
goes down the arm and ends in the hand
is a con. scapular half form. and
intersects here and there between the portions
muscles fibres are below is also in
the muscles of the extremities to give
us greater strength. and these fibres are
all of the same length in one and the
same mass

the other which nearly fills
or displaces nearly three
fourths of the quantity of water
in the former, however, which
is the reason why the water
in the latter is so much
warmer than the water in
the former.

divided (v)
 1. The following the figure of which was in writing
 not describing
 the letters as in the first drawing
 2. The following which was a compound of
 3. The figure which was a compound of
 the two former varying as it is in writing
 as indicated by the figure
 those are called *Chilodromes* which was in between
 two points, as those of the stomach, intestine
 which he has them to express their contents

Three Estates of Muscovy generally

Londoners are the same as Americans
 and so inevitable - some Londoners
 do give offence and more than
 Londoners blowing on horns and beating
 drums when they come into
 the street and sometimes subject to
 vulgar abuse, exactly their manner, but
 no sooner as they get the least they soon
 get well again, which seems strange
 to indicate that great part of our
 conduct, and of a gross person has
 changed too or that day he will look
 then with two thousand years
 which is another sort of punishment

[illegible]

2. It is not fully explained before
 the generally imagining that the greatest
 part of matter is disposed of among
 those that the Golden membrane will
 these cases influence and further in
 consequence of the spirit of reasoning
 their glory since which makes the
 quality part of the constitution of the
 and of the inflammation goes on in the
 cellular membrane will be much
 porous nor spongy but close round
 prevent the fibres cohering, but of
 the fibres disperse the membrane in
 become both porous and spongy again
 this is meant under the great artery
 but in other parts of the body
 first and in second place before it
 will remain long inflamed before it
 under the gate of inflammation will return
 contains one of the last heads
 of them will be about 1/2 of a quarter

3. It is not fully explained before
 the generally imagining that the greatest
 part of matter is disposed of among
 those that the Golden membrane will
 these cases influence and further in
 consequence of the spirit of reasoning
 their glory since which makes the
 quality part of the constitution of the
 and of the inflammation goes on in the
 cellular membrane will be much
 porous nor spongy but close round
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 the fibres disperse the membrane in
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 but in other parts of the body
 first and in second place before it
 will remain long inflamed before it
 under the gate of inflammation will return
 contains one of the last heads
 of them will be about 1/2 of a quarter

In a Morris body there was a long
shot, more or less. In the first body
there were in the drums

A person has had an inveterate
for a length of time the shot will be
destroyed in the parts

Whatever we say in the position
the cellular membrane is it is
and also we say in the position
and also we say in the position
part of the body and may be
into the position as a person
which we require as a person

[illegible]

therefore in general let me direct
you of it self ^{that I have said} of the

Heard when I was required of some
therefore the I say the also you do
in surgery and nursing the latter
and he says that he had done also in
nursing and has by that means
done a great deal of good and thinks

he has done several more.

As to the cellular
and connective tissue and the
higher forms in the center of the
inflammation which points to the
matter arising from cells &c. by

the membrane closing round the
the escape, but the matter in too condition
to escape, does the body frequently
break down in a tubercle the latter
and now and then if a tubercle breaks
will break and if a tubercle breaks

it gives it self an exit to the back
of the hand, so along time and before
it bursts and by that time the cellular
tissue will be consolidated and
when this happens the skin will further
about the cellular and grow close to the
bone by the cellular membrane being
thickened and it will harden like skin

the nation without any great loss
to the people - should make most
progress when they find least need:
some wish to be reason in the same
that they trust ostentatiously, because
they meet with the hard some unwillingly
those who change them will be
into the strength, enduring from the
rough hood and to form it up, at
other times Abuses are formed among
the people and discharge itself by
the arms and the instant may afford
renew, nature in these cases
Abuses generally lead to the most
correcting a number of vicious
ally point for an opening before
the government and it by a disordering
other will not and Abuse is formed
under the device of the temporary
freedom it was designed to work in
the issue of the Church, however
people who are not to participate in
forming Abuses, but for
they will give out for
one of course, and in a little while
it is almost impossible to the
people of the government, therefore

ganglion is a tumour formed on a
and when situated in a certain position
it is called a ganglion and is absorbed into the
system internally and is absorbed into the
system of the body, the ordinary of
forming it the best or the first stage
force of matter over the swelling and over
the force of blood, then with another
force of blood and a stroke or drop of blood
the first which will cure it. (I suppose the
the blood over them to with purpose) as they
adhere to tendons it is an objection to show
ing them. bloods violent inflammation
of tendons would be the consequence of
cutting here. Absorption
When an inflammation is a ganglion
owing to the gathering of the vessels and
the parts or fibres together and the
out a kind of ganglion, which
the force of blood, to that it
this does not disperse the vessels break
down and the adjacent parts to disperse
and in large abscesses blood will be
diverted to the inner of the
greater part to the inner of the
inflammation part of the body. - Now
and then matter is formed in the cavity
from stagnation

Extravagation of blood which makes
his body become as black as ink, at
first appearance the gentleman was
much frightened, but the surgeon
who attended him soon put him to
rest again. — In continuing on the
matter of blood running from cells to
fill the late Duke of Exeter his
an extravagation of blood at his
feet, but by being in an erect position
the blood worked above as low as his back
and the last now we think that a
gentleman who went to see him
thought he was a black
thoroughbred & was a black
thoroughbred in all these ways & was
a thoroughbred in all parts of the
body and of the disposition and
on their Abortion out of the
be joined, joined by over-riding or
sitting in the house it is of course
in the field that it is of course
and here and there to be seen in
the house with a line in the
part of the foot or inside of the leg
will be seen a great many days
A gentleman who was in different parts
of the body, and he talks of a
gentleman who was of a walking of the
mind of the gentleman from break in and
surrounding the gentleman

[illegible]

Alphabet by purchase on the different
parts of the body, and working with
it; two distinct and much needed
just as soon reduced by making a
little exercise to let out the air, in
short by two means the poor man get
well, otherwise in all probability of the
he had let into ignorance of the
world have been out of the world
This shows the usefulness of anatomical
knowledge.
A body at first will sink in water, but
will rise again as soon as it begins
to move, as it then grows lighter than
water and admits air into it.
Matter of the lungs in consumption
has been with in water, perhaps
from its being entangled in the mouth
with air. Moulding is a very useful
part of our body and our knowledge
of it gives us an insight of into our
nature, its texture in some part of the
body is fibrous, in general when divided
into the appearance of fine threads of
fibrin, it is commonly white in a substance
state, but its tendency to being dangerous in
disease in 2 or 3 days they become
inflamed and become red blood as before
as can be as soon as the over door plates
stone. All diseases are produced

For your justice a part it acts in contrast
with a part is mortifying you'll frequent
find the neighborly part to be
of a person one who is in sympathy
certainly will miss it next time for if you
think upon it, sound like a drum (distur-
bing) and you will
do your part of other (part) and you will
both feel and hear disagreeable under your
fingers, a little stirring has something
of this feeling on it, the way of the common
and we first begin near the broken
before it becomes general to the
northward one instance of a man who
fell from his horse and broke a rib, and
the higher part towards the lower
let us see into the cellular membrane
and when the I got there the man had
the appearance of a horse, I suppose, however
discovered all over and had much of the
increased in diameter, almost equally
his legs were stiff, and he was 2 or 3 inches
the appearance of a human creature
let us see into the cellular membrane
the higher part towards the lower
fell from his horse and broke a rib, and
northward one instance of a man who
before it becomes general to the
and we first begin near the broken
of this feeling on it, the way of the common
fingers, a little stirring has something
both feel and hear disagreeable under your
do your part of other (part) and you will
think upon it, sound like a drum (distur-
bing) and you will
certainly will miss it next time for if you
of a person one who is in sympathy
find the neighborly part to be
with a part is mortifying you'll frequent
with, and is a great sign of mortification.

66. of the abdomen, which is not a great
quantity of fluid by the

[illegible]

The Cartesian system is a spacious substance
 serving to connect all parts together, and
 is a gliding substance allowing some
 degree of motion. I intended rather
 to call it united parts together, but
 in fact where there was not in each
 a spacious substance in parts where
 there was not he calls it united substance.
 I am in the doctrine of parts and in
 I propose if one is dividing these parts
 it would be united very that general
 with the Editor of Spacious substance where
 there is no fact as in these parts, but in
 general he calls it Cartesian Spacious
 it connects every Spacious and every
 fiber of a Spacious together, it goes round
 part, and even connects Spacious
 together, it may be compared in the end
 of a Spacious is spacious Spacious
 dispoising the fiber of the Spacious, and
 it is this Spacious Spacious part a Spacious
 on part of Spacious to Spacious the Spacious
 by Spacious the Spacious and Spacious, the
 with Spacious it is Spacious of a Spacious
 does meet no Spacious of Spacious it is Spacious
 the Spacious, but in Spacious Spacious it is Spacious
 meet Spacious for it is Spacious in Spacious
 it is Spacious Spacious Spacious Spacious

In short, I think if the inward parts
were exposed to our view the same as the
outward, we could with as much certainty
say from experience, know where the different
parts were seated, as we can a pain in the
stomach or any other external part from
feeling.

[illegible]

Proximal of the thorax & abdomen, and in
the vessels they run in nerves, that by
way of least is called coronary nerve.

The six large nerves of the Axilla make
the largest branch, and in these nerves
is impossible for any person to traverse
so as to give any good account of them, and
these being very early made it more difficult
or not possible when they communicate

There is a ganglion in the nerves, and not in the
blood vessels, the largest in the body is on the
side of the neck a little above the communication
of the par vagum and Intercostal, nature points
intends that our service should be always
active, these ganglia are organized, and
not formed by you have as you suppose.

Ganglia in lungs is a common one on the
side or any other. I suppose part unknown
a little glazy fluid. The vessels give us an opportunity
of dissecting them, but the nerves being hard and
which is why our nervous system is so difficult to
study. The nerves are joined in the Intercostal
to suppose to be situated in the Intercostal
the nerves are the circulating or medium
of communication between it and all

parts of the body, also part
by the nerves the hand sends commands
to all parts of the body, as muscular motion
is not possible by means of the nerves

The Ophthalmic Nerve seems to be a continuation
of the Trigeminal Ophthalmica. but it grows
harder and becomes near the eye, and is
the only one of the three that may be extri-
cated. The middle and smallest of the
three is full of small blood vessels, and
if this substance is destroyed, or injured in
a great degree, we cannot see. but if the
eye remains quite clear.
The Nervus and blood vessels have a
different origin, but as soon as the
nerves get to the blood vessels, they unite
together in a great degree of minuteness.
-through the body, the course of the great
scaphic nerve is across the back part of the
eye, but then a little towards
the blood vessels, and then they run
together and become of the large blood
vessels. but a
Nerve does not give off branches, but a
cord, at last smaller & smaller, and every now
is a distinct cord from the beginning, something
like a Spinal Cord. In the nerves there
is something analogous to the arrangement
of blood vessels, but in the nerves it is called
incommensurate (or) they are distinctly
in a difference between Nervus and blood vessels
distinguishing themselves in the Nerve, for in the

[illegible]

An Animal Body is referred to its
vascular system & partly to its
the center of which is the heart

The nervous system is but little understood
the center of which is the brain, nor does
Dr. Hunter believe we shall ever have a
tolerable idea of it, but it is known that
the connection between the brain and
all parts of the body, by the *Truncus*
longus & *Truncus* the former which is within the
head & called *Conspicua* and the latter the
spinal *Truncus*, they are covered with the
coat of the exterior membrane called
Dura Mater, & the *Arachnoid* which is
very delicate, and between them at the
Truncus *longus* only is the *Truncus*
Arachnoid - The *Arachnoid* adheres to the
brain by filaments of vessels
Of the brain in general which is very delicate
of the *Truncus* or cortical substance
does formly form like all other parts of the
body, thus in the upper part
Truncus *longus* or *Truncus* *longus*
2. *Truncus* *longus* or *Truncus* *longus*
it is the internal or *Truncus* *longus*
of parts together and goes through the
foramen *longus* in bone
with parts of the nervous in bone

If any disagreeable news is brought to a
 person with the Child, the father's Sister
 - which and makes a State in small quantity
 - the person bringing the night.
 External distention or irritation will
 cause a secretion in the different external
 parts, particularly in the foreman of the
 greatly and so does irritation on glands,
 internal secretion depends entirely on
 the nerves. — ~~the~~ foreman
 secretion as purgatives & diuretics
 moving about with them, fall on the
 kidneys and get off by urine, other
 dried falls on blood and goes off
 by sweating given in any degree
 increases secretion from the skin

Glenn's appears very dissimilar, but not
entirely so, in a Glenn's is said to be
formed in the stomach, and it is not
the blood is brought by the Artery to be secreted
and it returns by the Vein only the quantity
lost (in secreted to the Artery) comes to the
useful part to be mixed with y. Thus,
and the redundant part is voided out of the
body. The center of nutrition in the
in the Porta, and the center in the Artery is
the Liver. The Secreta do not excrete more in the
Glenn's as in other parts of the Body, being
the first Artery, this is great Secreta
the Artery sends has no reversion, but the
center in the Liver. The Liver is an Artery
or reversion to the Secreta, which is not
When I observed y. I did not see any
lost in the Secreta, as in other parts of the
Artery, but there was y. the nothing in the
Food after the Artery, however an
Apothecary of the acquaintance had such
an Artery in his Stomach, not to form
any thing, but to form himself, and
by drinking Glenn's Artery, he common Artery
but what else Artery most was nothing

[illegible]

The Organs of Secretion

Glands, derived from Germinalium, from
the Germinalium, they are various, of the
Hormone, being derived from Germinalium, of the
Thyroid, of an Uterine and one of a human
consist of flesh - The Salivary, Pancreatic
Mucous, glandular or mucous, these
are called Glands, from resembling
Glands, the Liver, Kidneys,
Secretory, these are

when the Glands are unipolar, Glands according
to Malpighi, with an orifice in the middle of
each, and it is there that give us the ducts of
of things, is not the case of the Liver, but
called the Glands that surround the Liver, but
the Ducts that pass through them
the Ducts in the Liver and Kidneys are
highly secretory in an anatomical state, but
become granulated as they are in the head of the
Ducts and Glands, only of the form of the human
are on one side of the foot, commonly called
decolor Glands and he is a common
formed in one of these Glands - Glands
an ordinary Organism, Glands, Liver,
Secretory, Milk, ye and Glands, in Liver
thought they were only as mere Glands,
but now in the Liver they work a Chemical
change in the Milk that pass through
them, as Milk, even in a state of decay

Intermally the Barke he thinks will
do service, and as these Disorders seem
to proceed from a fault in the Lungs
which it is to be hoped by proper
Linen will make the Lungs a greater
part of their strength by that means
we may probably fall on a better
method of treating ^{the} than is hitherto
prevalent

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Whatever power to Absorb the Debris
of the up to the fluid will cause a Drop
Diverseous Elements effect the
Dissolution of Elements and where there
Glucose are not, the part about the Diver
will well and be Determinative, then
Diver of the Breast is a bad virgin if
the dissoluble Elements in the Axilla
are well, not only well, but that the
Dissolution is absorbed into the Breast
Blood, therefore the fluid is strong to
Impedate in a Case of this kind.
In Glucose, therefore, first of
all things, but there is something
doubt in the Dissoluble which are
well, and the others are well, so that
be to large and take in something
Dissolved into the Mass, which should
have been well, and in the
Dissoluble Diverseous look generally
good from the skin being off in them
of Dissoluble which are harder and they
are not so subject to these Diseases,
In this Case the I advise the patient
which gives symptoms and remedy.

Dr. Smith says he was called a day
who had her arm twisted with the kind of
dumb or hard neck, and before she
died he believed it became convulsed in
the article; now from these facts it seems
that the Simpkins Abortion is all
parts of the body exist of the Simpkins,
and are the same and are the same
infection as the ducts, and are the only
absorbing vessels in the body.
Abortion from vices is carried into the
heart in the same manner as in the
in the heart where there is a large
as a disease or elbow, Dr. Smith mentions
an instance of his going to visit the
doctor to see an Obstruction, the patient
had one of his fingers and one of his
with a quail of matter, and the doctor
a large infarctus, and going up to
his groin which he looked upon as a bad
condition as he supposed the matter was
to much absorbed.
With in Smith's account of not down
off on the ground, but then it
generally goes off in a vessel.

Dr. Smith says that a Gentleman
 put himself under his care for a while.
 ing in the room lower down than the
 usual place for venereal ones, but the Dr.
 took it for one of that sort and ordered him
 a dose mercurial Medicine, which he
 thinks would not do his Patient any harm
 if it did not happen to be a swelling of
 that sort. The medicine was taken, but the
 Gentleman was not willing to leave the
 Doctors office, and bro't of it self.
 changed a / considerable quantity of Water
 thus so that at last the Dr. took it to be of
 the same sort him as a Venereal Abscess
 instead of that he found it to be a discharge
 of one of the dropsicalk, &c. &c. it
 discharged the kind of fluid for some
 time only diminished a little in quantity
 he then told his Patient that he would
 no longer him and he believed it would
 get well of it self, however the Dr. went
 with him to the bath Dr. Baileys who said
 Dr. Smith's Patient with this abscess & cure.
 Medicine, being a Dr. of great force, but
 in short the Gentleman got well without
 taking any thing.

Butter will generally form in the axle
as being the nearest gland that the damp
hath got to, but if the vehicle were
so comminuted by rubbing, the body
or swelling will be formed in the neck
or elsewhere under the lower part.
I understand now that the matter of a
common clasp is not absorbed in the
mass of blood. — Butter forms in the
but forer in the groin than general but
(very) as for upon the thigh, as a distal in
one distal, and this is the communis
by the damp, but in the part, as in
hot countries where the legs are most
prevalent. Joseph with have doctored
the matter. — Another method of comm-
minuting the venous humors is when
one has a cut on the finger and it does
so forth, matter, in the case the swelling
forms under the axle and I understand
says he knows a physician &
who got it this way and I understand
the damp, but I feel very things from
the finger who to the arm, but he
found one of the glands enlarged.
I will say in all ways observe others
that go to going to form in the groin, a
hard good turning up in the finger, as such is
known to one of the damp, but I feel doctored

The large ones have the appearance of
being ~~collected~~ and the small ones appear
as distinct - Dysphagia, Deodorant
determine in one gland only, but pass
through 2 or 3 different ones, for instance
those that come up the leg get lost in the gland
in the horn, then through them in the horn
and afterwards pass through the glands
the body. Diseases of dysphagia
the glands receive their fluid by another
the ducts which we have seen before observe
from the ducts which we have seen before
from all infectious glandular system
by the help of the ducts which pass
have the power of secretion, and thus
argument of a chamber or Allen that
abortion, for instance the ducts of the
carries the immensity to the glands of the
glands which influence and cannot
justification without causing
a sex by learning the whole habit of it
will be desired, but its dangerous position
a habit of mind all probability the system
will be passed by it and will require
frequently it meets with it.
A woman who with an infant and
may have the disease communicated to it
Hypothese, and in this case the mother or

the lymphatics of the liver & stomach
go up the foot of the neck of the liver
and thence to the lymphatic glands of
the groin, there are often small glands
the arteries & lymphatics then are
from combining vessels uniting with
one another, and have valves like those
in the veins, the thoracic duct
is to the lymphatics what the Aorta is to
the arteries & the venae cavae to the veins, for
these vessels terminate in the single arteries
the two veins and left subclavian veins
do join the right heart
to join the right heart
the lymphatics in the neck join the
veins, and there they pour in
their fluid to be mixed with the blood.
Lymphatics were on the sides of arteries for
if they were on the inside of arteries
the lymphatics or congested glands,
are situated in the same place, & some are often
parts of the cellular membrane, they are
formerly called congested, being made up
a finer & more numerous substance, like the
liver & spleen, but since the lymphatics
have been distinguished by the vessels, these
called lymphatics, & are sometimes
called these glands are sometimes
called they may be distinguished by the vessels passing
through the cells, and come out in a number of
branches which unite, the large

Of the Symplicities
Symplicities are considered as a part of our
the term, they are of small importance
to the office by small imperceptible
do. It is generally believed that small
ing. Arteries carry the impetus to all surfaces
in the body by the old manner of the word
fracturing, however I consider it clear that
the fluid drives through all parts of
the body except the pulse which is
alike) and it is this transudate water in
the Cellular Membrane carries the Deare
called Diuresis, or Anasarca.
The drying of a skin after the fluid
is taken off, is a narrowation, and so does
a part that has been stretched, the re-
gulating of the blood does not diminish in
knowing, blood becomes ^{more} ~~they~~ are in the
with the ^{known} parts of the blood, but in
the dead they do, for both Cellular Membrane
and Serous are almost as dead as the muscle
after the parts begin to mortify and break
down the Globules. — The infectious fluid
is absorbed from all countries internally & externally
and by ~~absorption~~ ^{absorption} that means the
fluid is absorbed in young people after a long
especially those who have had only one
dog, used, and it is taken up by the ~~lymphatics~~

The Case in Hemorrhages that stops
of them selves, but if by accident
the Blood stays in some of the arteries
it will, the circular fibers are so arranged
and ridged of the artery blood closing
the orifice grows larger, and requires
stronger efforts, and if the blood escapes
with it, the artery and is carried to the Heart
while the artery increases but not to turn
If any part grows larger, the neighbouring
ing vessels will enlarge following they
confirm vascular, if a Stethic is in an-
-ged, the Spinnatrix will enlarge likewise and
the same in other observed parts

but Dr Hunter is very cautious in
giving preference to either, - bleeding
of the nose stops without any thing, and is
more the measure of its discovery fatal
largest bleedings from the uterus contain
women miscarry at three months, but Dr
Hunter says nothing should be done in
uterine hemorrhages except bleeding again
the last month or two of pregnancy,
you should let your patient faint
without giving any Cordial, and the
blood will coagulate and stop in the month
of the bleeding, I feel, therefore it is wrong
to give warm drink, &c. &c. &c. &c. &c.
any thing else, but if your patient is
very weak and has you may apply
to Coffee or in Linen, the treatment
the I mean in those hemorrhages
without any other intervention of body
bleeding in such cases and dangerous
of the uterus

Dr Hunter mentions a lady who had the
menstruation for three days out of order, and
then it stopped of itself, but in October 1750
for the first time satisfaction was before
admitted. At their extreme Dr Hunter has a
tendency to say that blood is more, which is the

When we are going to bleed in the Arm
or any other extremity, we lay on a
ligature, which nearly stops the flow
of blood, before we make the puncture, that
the motion of the blood, which is carried
for after the puncture is made, the blood
comes by drops and drops, ^{the blood} as soon as
the ligature is loosened, if from time
to time (as we sometimes the case)
Internal Hemorrhages from the Limbs
Stomach &c are blood in purging, &c
generally by Arterial blood, as is evident
by its colour, which occurs in Hemorrhages
that can't be got at, it would be extremely
the stopping of them by bleeding another
limb, and this is done by ~~stopping~~ ^{stopping} below
ing the quantity of the blood, by which
when your patient will be liable to bleed
when the coagulated blood will stop up the
mouth of the vessels, but how in proportion
must bleeding be when your patient is
already weakened by the Hemorrhage; therefore
Dr. Sydenham thinks the old method of putting
of tying Ligatures round all the limbs of
the body, and taking them off by degrees after
the bleeding has stopped, and if a part is cut
and there is no coming out of bleeding things
think a good method to be a Ligature above, & below

This is to say as well as Affirmation
 in the case of the cleanness between the one
 and the other, and the cleanness and occasion a
 retrograde motion in the blood, and a
 degeneration of blood in a retrograde way
 by the laws of Sympathy & Antipathy
 in any part will cause a revolution or
 degeneration in some degree by the regular
 action in the quantity in the parts of the
 will be increased, and of course a revolution
 be made down the scale, and by the
 says it should be laid down as a rule to be
 as near the last effect as possible to be
 service, as he believes will be made that way
 but he does not think that bleeding in one
 from will relieve a Sympathy on the other
 side, nor that bleeding in good will relieve
 an inflammation in the head, as the
 cleanness is to great between the two parts
 and vice versa, and he has seen this blood
 run with great rapidity down on the
 hand to any other part.

The ^{in general} vessels are all Elastic, and adapt
themselves to the quantity of the blood, so
as to exert after great exertation, and
to great distension

Disease of Vessels
Dr Hunter believes there is a Disease called
the Vessel loose their elasticity, and the
Disease the cause of an Aneurism, who
dies with the case of a Distention,
and irregular Pulse (the blood in a fluid) and on
opening the body, the Arteries, Veins
and joining very large, and in these cases
it is believed that the Pulse are too large
and the quantity of blood is little, which
causes these fibrillary and irregular
Pulse, ^{for the body} there is a great recommendation
and something of the same sort for the
Artery, by which means he believes it
may be enlarged for some time, and it
is remarkable that the old men found him
it much better when compared, which
seems to support Dr Hunter's doctrine.
The man used to be better after the operation
and was much improved by that good making more
blood than which supplied the vessel with
a greater quantity than before, small probability

placed in the Vein Dr. Hunter thinks
are not requisite to carry on the circulation
of the blood, so there are none near the
Heart, nor in the Viscera, they are
distributed to be in the extremities to preserve
animating in the Arteries, and become
wastings of the Vein, but these vessels
not hold good for them are false in the
Heart and in parts they be more portable
do y. Heart, where the blood does not not
against its own gravity, therefore in
Hunter believes they are given to drive the
blood with greater velocity to the Heart and are
acted by the power that the bellows of the
muscles cause when in action, which

increases the circulation. The Vein receives their blood from the
Arteries in a continuous stream, in the
the Heart is in the Diastole or state
sometimes the Vein will bleed in action
that is by (beats) the undervalve in the Vein
it has been known to close by other means
Vein, and the pulse of the Artery under
the Vein how comes the blood to come by
the Heart, but no vein as the Diastole
the Legation has been taken of, then
that is a false notion ^{is a}
There is a pulsation in Veins, as the
Heart, but no more

The Venal system is larger than the
Arterial and of course the blood passes
more slowly through the Venae

The coats of the Venae are also thick as
those of the Arteries and are Anatomist
may see the difference by the feel, as
the Ven is larger, flatter and thinner than
the Artery which is thicker and more
tubular than the Ven, the coats of
Venae are Venular.

Venae have Vena of the same sort as
those in the Arteries (ven) resembling
arterial vessels but in general
the Venae have only ^{one} (one about another)
constriction but still in three, and some
times only one, then we see to allow
the blood to pass but refuse to give it a
passage back by the Vena catheter in
taking blood, but in some cases after taking
moving blood, but in some cases, but
not in the Venae, Vena in the Vena,
(ven) in the heart, Lung, Liver, Spleen,
primarily in the large Vena of the Venae
the (ven), Artery & Vena, but they are

irregular, some at an angle, two or three
different. In the Arteries there is only
one Vena at the beginning, and sometimes

There is a source of absorption externally
and internally, the former is evident by
rubbing muscular Circumst to excite a
dilatation, therefore its disposal thus
absorption is conveyed into the blood by
small veins terminating in the skin

Veins & Arteries Arteries generally
throughout the body, the one running with
the other into Canal for excretion & exhalation,
but the Veins are more numerous & are
passages from the Arteries both in their
communication and in their, but the
Veins near the Heart are different from
the Arteries, they are smaller, and have
smaller branches in Veins than Arteries

There is a double system of Veins in the
Arteries, the superficial, and the
deep, which are disposed in the
same manner, the Veins are
disposed in the same manner, the
Veins are well as the Arteries are divided
into three orders, the 1. Arteries, the 2. Veins, the 3. Lymphatics
which cannot be seen by the 3. Lymphatics
which are disposed to carry the Lymphatics

Of the Veins

Arteries in their extreme branches
 make a continuity of canal into
 the veins, without any intervening
 substance or any thing else (as has
 been found out since Harvey's time)
 so that it is difficult to say in this
 sense which is Artery or which is Vein
 There are then no ramifying but carrying
 blood from the crumles to the heart, so that
 the blood which is sent by the Arteries to the
 parts of the body, returns again to the
 heart by the two Ven. Cavities, Venae
 Cavae superior & inferior, and the blood
 which is carried by the Pulmonary Artery
 to the lungs returns to the heart by the
 descending Vein - besides these is the
 Ascending Vein which will be spoke of
 Venae Cavae superior, however the two Venae
 terminate in the right Auricle of
 the heart, and the two Pulmonary Veins
 terminate in the left Atrium, from
 Physiologically in respect to them we
 but Anatomically they have their origin
 at the heart
 Some begin from the Portor: Cavities
 Some in Men & Children, others
 sort of Veins begin at Juncures, but do not
 carry blood but perhaps they add to them

Arctura somnifica Ophi. from a peculiar

*Affixes sometimes of soft downy
 1st of Bonefish in particular lowest of*

City of London in Council
the 13th of May 1709

The 1000 in number
but is not an effect of age, although

most frequently the highest of the Alps

They may be Obeyed a great many
times without great inconvenience.

Heaven without a great improvement
in sanctifying the Lord of all

The composition is not
known when the Academy does not state by

negative, you may direct it to be

For the purpose of the case, the court has decided to grant the writ of habeas corpus.

It is written above you to say that
the ground is a little then he is.

the first branch is a little more than the
the second branch is a little more than the

of his own to that of some old, and the

For the first time the river is found

[illegible]

near midday without the slightest

my warm friend & count of it faithfully for us,
and therefore be under the necessity

and therefore the whole is not
frictionless of the sort, one is in the

the same of it and loses its power of

reactions this is called a free division
the other which is the forced division.

The office which is the subject of this
 statement is carried by an insurance being

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 The amount is carried over
 made up the 1st of July by which means the book
 1768 over of the amount of the bill is paid

the knowledge of the value of the greatest
improvements in human virtue

He is not to be taken from
Aristotle, and he is not to be taken from
Aristotle, and he is not to be taken from
Aristotle, and he is not to be taken from

In the first place, the knowledge of the
value of the greatest improvements in human
virtue is not to be taken from Aristotle.

He is not to be taken from Aristotle, and
he is not to be taken from Aristotle, and
he is not to be taken from Aristotle, and
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he is not to be taken from Aristotle, and
he is not to be taken from Aristotle, and

Of the Pulse
 The difference of pulse, hard & soft due
 to the evening you frequently find
 it hard, but if a patient comes on in the
 night you'll find it in the morning soft.
 The reason probably be owing to the state of the
 Arterial coats, or perhaps to a hard or
 soft stroke of the heart, then there will be
 large & small pulse, large if it strikes a
 strong stroke, & small the reverse, both probably
 depending on the state of the Arteries & quantity
 of the blood given out by the heart.
 The pulse is given out at 80 or more per minute
 with a slow, quick, or 2 or 3 or more per minute
 called frequent and infrequent, both depending
 on the action of the heart, which is affected
 by hard or soft, or irregular pulse, irregular
 when one stroke moves in 2, or more
 pulsations, when one pulsation falls, the
 patient knows it by a palpitation, or
 uneasiness, the doctor that time about
 the heart.
 Some persons do be made in the knowledge
 of the pulse, and I remember says he has
 heard of physicians say that sort of a
 pulse their patients have, but upon his
 feeling a little differently he found agree

Arteries & Veins & Lymphatics or Lymphatics

The blood at first comes into the large Artery with a jerk from the Heart, which causes that most noble part to swell at one time and contract at another, then the Arteries contract and push the blood into the smaller branches in a constant stream as is evident if you pour out an Artery near the Heart ^{one} it will bleed in Juxta, but if the smaller branches is wounded, the blood will run in according with its velocity from in the larger branches

The blood does not run with that rapidity as it does through a microscope, according to Haller.

In smaller vessels if you make the distance a few inches not of one of their horns, which you will find breaking in all parts, and as the Arteries grow off by perpendiculars, then Veins from will cease in that particular part. Arteries move in the velocity between the Heart and the Arteries, and the velocity is diminished in other parts

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Secondly the Portracation or retraction of the
for the future power to the blood
returning the same way, therefore does
not that the Heart is the great and
formal engine in the Portracation
there the blood is drawn thence the Arteries
by two different Agents (viz) the Heart and
the vessels of the Arteries acting alternately
like a pair of double bellows, but there is
something he does not understand in the
arterial branches, however he believes that
is something peculiar in the vessels, or something
different from elasticity carrying on the
communication (and such is evident, that it
does not leave as soon as an animal does
its head) Dr. Hunter mentions a Man
who had the Operation of varicose for an
Anomolism in the Arm, and sometimes
afterward found by dissection that the
collateral branches carried on the blood
and such are enlarged from being
as big as some heads to be as big as good
Quills always filled with blood as there is a
constant volume moving with different
velocity, slow in some and most rapid
in others, facts as near as Heart
shown in the experiments

5. The internal membrane of the Arteries is
 to preserve the blood from coagulating through
 action on the inside of a Duct, both on
 the Arteries & Veins.
 The second vascular fibres are given by
 nature to strengthen them when extended
 with the distention of the Arteries.
 The third or outer given is strengthening and
 elasticity which stretches in a long time
 duration. — All these coats are vascular
 as well as most coats of the body, the
 common quality being wanting in many organs
 the Ducts depend upon the blood being
 thrown into the Artery by the contraction of the
 Heart, the pulsation of the Arteries
 is first felt near the Heart, but
 later and slower in proportion, as the
 blood goes on to other parts of the body.
 (v) It is not by, but in these branches that
 are very small there is no pulse at all, and
 one of these branches will cut the blood does
 not flow in it, but in a continuous
 stream, as it moves first at one end and then
 moves from the heart to all other parts
 like to some upon the water and the blood
 runs into the veins in a continual stream
 without any labor

[illegible]

[illegible]

the same as those of trees, but
the branches of trees are not, as the leaves
have something Amalgamous, the soft (sapid)
Artery runs longest without covering off
branches, the branches of most Arteries grow
near at right angle and the Veins grow
at acute angle & then reflect & form a
at acute angle in the smaller branches
Arteries and make a most beautiful
net work, but these also canals (arteries)
are filled with blood which otherwise would
be with by loose being (soft) or otherwise
obstructed, the two different Arteries have the
largest Arteries, more they go up to the
Heaven. — by Arteries we mean
forming one into another, but Galen and the
rest of the Ancients meant something or
denaturing of tubes, Arteries moving in the
manner we mean above the circulation and
helps also a more equal distribution for the
not in most of the parts which is not so in
Arteries are generally covered with
fibrinous) and Arteries, Veins & Lymphatics
but by difference in the quantity of the sanguineous
and Serous, Arteries can never be in
blood, Serous in many or commonly seen in
the Veins which I have called Arteries
the red globules and these small canals
with before mentioned of the small canals

[illegible]

Amphibian is characterized by four of
 three and strong acid.
 otherwise the blood is sufficient to resist
 the water part of it will grate the
 acid will turn brown red and brown
 and turn blue of blood greenish
 therefore the same effect in changing the
 blood from acid to alkali and moist neutral
 state and by adding water it becomes
 again colorless.
 2. A mixture of blood with colorless liquids
 of water, but it will not dissolve in
 water in serum or water which has been
 taken have been dissolved.
 blood will not dissolve if it is mixed with
 fluids. The blood is more soluble in fluids of equal
 density and it is of use to observe the
 separation of blood in the same with other
 difference of color in contact with other
 being to the turning of blood
 surface and turning by the surface
 for entering the lungs and it gets darker
 turn blood from the arteries into
 again in passing from the
 the lungs. It is observable that the
 the blood is more fluid than the 2.

He died of an Ulcer in the Rectum, so that
 it was impossible for him that he did not die. I have
 and I am, that is, that is their position
 at only 20 and 30 years of age. After which
 are known to die before a violent out of
 the body, as these diseases are known to
 agree at least of judgment and while
 in administering them in any case, even
 when the body is otherwise in a healthy
 state.
 It is therefore supposed that if the blood
 was 2 or 3 days in the body it will
 coagulate as in the preceding extraction
 in the arm after bleeding & around the eye
 but this is not proved.
 I do comment on blood out of the body
 of the coagulation of blood out of the body
 in different cases by the way, no agree
 in different cases by the way, no agree
 of coagulation of blood out of the body
 that would not surprise
 simply supposed to coagulate between 11 & 12
 serum near ———— 160 (180)
 1300 were coagulated in the Rectum
 being, and he supposed that the position
 would owing to coagulation

Disease

Googly under lymphoid forms the buff
 colour in. However, soft power and
 color of blood that become discharge
 after delivery. — These are witnesses of
 the blood is not coagulated in inflammation
 — only covered in the body in a higher
 disposal, but when drawn, it is the
 coagulated mass that separates from
 the red globules, and probably undergoes
 the transformation becoming serum
 the disease, but this buff is not seen
 when there is an issue in the blood, that is
 when blood are in good health, as in
 disposal, but this have a buff upon
 portion with a practitioners in dissecting
 their blood, and he can always find
 in this form only he can always find
 when a woman is with child, the buff
 upon the surface of the blood drawn from
 here, fibrinous and irregular fucus frequent
 by down in her own cases, as well as in
 disposal of blood, the coagulum and a soft
 of a person who has the coagulum and a soft
 disposal him after death, it was discovered that

Blood exposed by Mr. Angstrom to test heat
 that is the part which is called Globular.
 20 of these Globules differ in different
 constitution and more in a robust person
 than in one of a weak constitution.

Heat of an Animal Body - } 98 degrees
 Fahrenheit to Thermometer - }
 Heat of a Fever most - 110 - 120
 of coagulable Serum - 160 - 200

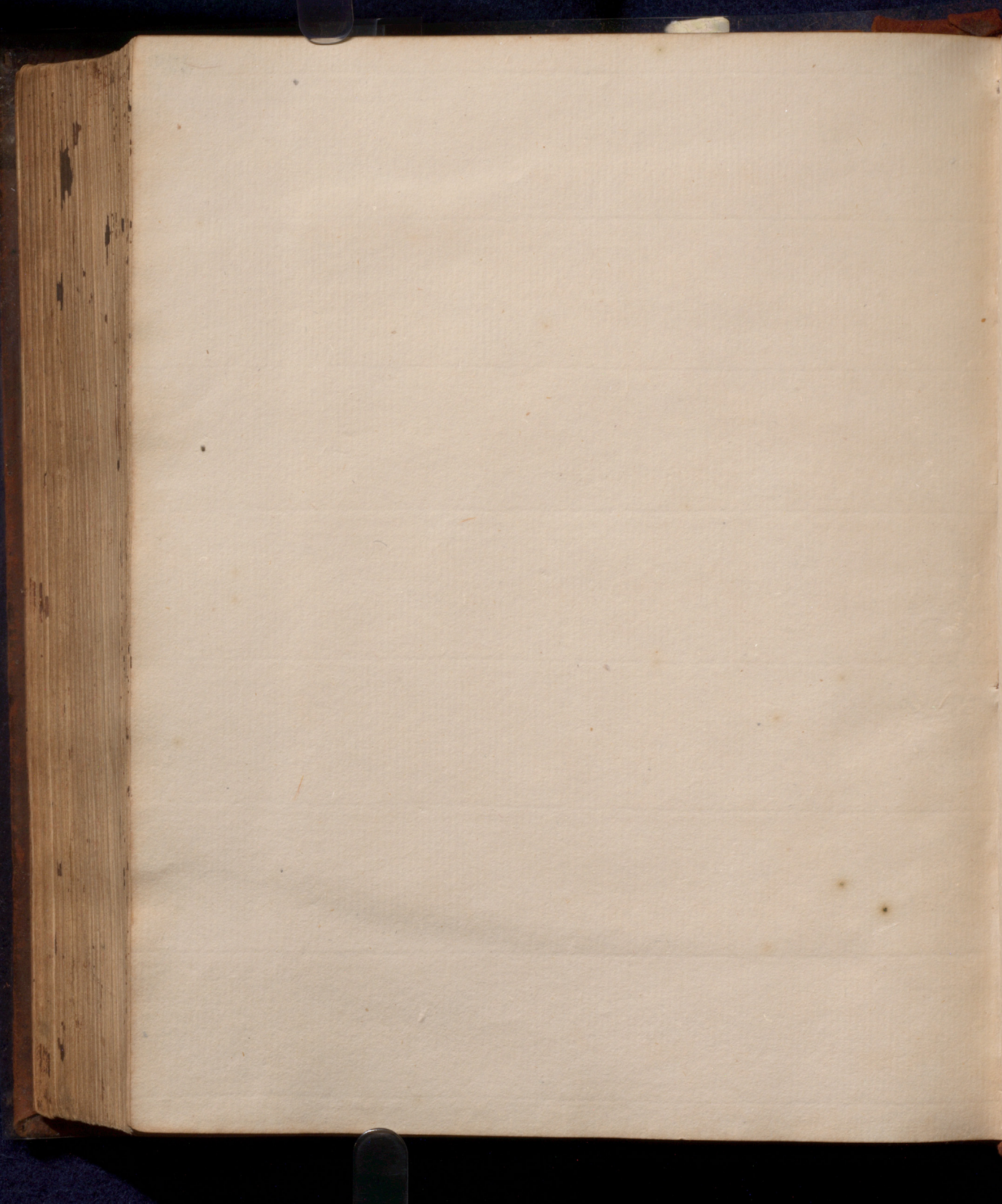
The Bones contain more earthy substance
 than any other part of our Bodies, every
 part contains a little even the Brain &
 and are the above mentioned contents
 of the heart and other parts of the
 great vessels of the blood depositions
 and I have examined them during death.
 so that it is a good sign when the blood
 continues to and down.

The serum very rare, as in the
 being recently mixed with the blood, when
 it is exposed to air, it is exposed to
 decomposition. A person who has a great
 quantity of blood in the system has
 been from a gentleman who was Governor of
 the state of New York, but he never has
 observed it himself.

Blood coagulating in Membranes is not
surprised to find also the Clotting of
A fish in the Decaying of it
withdrawn from putrefaction, and in
examining a Body after death, if the
parts of the Blood upon the surface
points to the (primordial Artery) & to
those of the (pulmonary Artery) & to
observe that it is formed at the
arteries they are and in those
and it is not possible they are formed by deposition
of blood where they are formed of an infuse
at a where the Artery has a deal of an infuse
matory (Artery) (Artery) (Artery) (Artery)
or (Artery) that formed the part in the Artery
In our Bodies there is a great deal of con-
-ate Air which lets itself free upon
certain occasions, such as putrefactions

Clot or does mixed with the Blood in
Artery can't be of service to inform one
about effects they will produce in the
human Body.
Ananist difference between Artery &
Venae Cavae, the former flowing of a fluid
and the latter a dark red
Artery carries the Blood from the Heart to the
parts of the Body, and Venae Cavae carry it back to the
Heart

body, than should be, the serum is some-
 times whiter, and sometimes milky, &
 flunder says he has once seen it white
 as milk, & clear it will coagulate with a
 certain degree of heat and with shunts, it
 becomes like the white of an egg and in some
 degree opaque, the greatest part of the clear
 by much is serum and the white is
 all of one sort. The Crassamentum
 is made up of two distinct parts, & of
 the red Globules under and the adhesion
 of ser gives the surface a kind colour
 2. ~~part~~ is the gelatinous fibrillar or
 fibrous part, of a dusky colour and
 what comes from the vessels of a Roman
 after delivery, so the substance is
 sometimes clear of blood is vomited up, and
 by the texture of it you may know if it
 has remained along time in the body
 and whether it is arterial or Venal
 the inflammatory Cases the blood when
 first drawn looks green and yellow and
 sometimes of a buff colour, if



224
233

234
(wlt.)

C¹ M^R P⁷

Anno Domini 1780

Oster
Room
B.O. 1226

#252299755

